Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Accelerating Wireline Broadband	**)**	
Deployment by Removing Barriers	**)**	**WC Docket No. 17-84**
To Infrastructure Investment	**)**	

To: The Commission

COMMENTS OF THE COALITION OF CONCERNED UTILITIES

Arizona Public Service
Consumers Energy
Eversource
Exelon Corporation
FirstEnergy
Hawaiian Electric
Kansas City Power and Light
NorthWestern Energy
Portland General Electric
Puget Sound Energy
South Carolina Electric & Gas
The AES Corporation

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SUMMARY OF ARGUMENT

The *Coalition of Concerned Utilities* applauds the Commission for seeking "creative and common sense" pole attachment regulations to improve the process by which communications companies attach their facilities to electric distribution poles. The April 21 NPRM draws much needed attention to existing communications attachers, whose actions and inactions have hampered the ability of new communications companies to compete. Utilities face a host of issues trying to manage existing communications attachments, and existing communications attachers should do much more to shoulder the burden of accommodating new attachers.

Existing communications attachers make it more difficult, more expensive and more time consuming for new communications companies to gain access to utility pole distribution systems. Given the existing circumstances, the *Coalition* respectfully suggests that the best public policy is one that encourages all affected parties to resolve their attachment issues collaboratively, and to ensure that pole owners and attachers alike have the resources necessary to keep the system functioning properly. Electric utility pole owners must be fairly and fully compensated for communications attachment activities, existing communications attachers must shoulder their fair share of the burden, and there must be incentives for all attachers to comply with important safety and operational requirements.

Existing Communications Attachers. There are three ways that existing communications company attachers make it more difficult, expensive and time consuming for new attachers: (1) existing communications companies are slow to relocate and transfer their existing attachments to make room for the new attacher; (2) existing communications companies have installed unauthorized attachments and created safety violations that slow down the new attacher process and make it far more expensive; and (3) the unused facilities that existing

communications companies fail to remove when they upgrade their systems occupies much-needed pole space and load capacity the new attacher would be able to use if those unused facilities had been removed.

Proposals to Facilitate the Attachment Process. To solve these problems, the *Coalition* proposes the following:

1. The *Coalition* supports the use of one-touch make ready work in the communications space on the pole provided that a number of conditions are met, explained herein.
2. Existing attachers must remove unused attachments to make room for new attachers and to reduce pole loads.
3. New attachers should be entitled to file pole attachment complaints against existing communications attachers.
4. New attachers should be reimbursed for make-ready expenses by any existing unauthorized communications attacher.
5. New attachers should be reimbursed for make-ready expenses by existing communications attachers with preexisting safety violations.
6. If a utility pole owner must perform an existing attacher's work (e.g., transferring attachments, removing unauthorized attachments, correcting safety violations), the pole owner should be reimbursed for its fully-loaded costs plus 20%.
7. Utility pole owners should be allowed to require communications attachers to participate in an electronic notification system.
8. Utility pole owners should be entitled to stop processing new applications and to retract attachment permits if an existing attacher fails to comply with the pole attachment agreement.
9. Utility pole owners should be entitled to sanction existing attachers for unauthorized attachments and safety violations.

New attachers must also bear some responsibility to plan further in advance for any future attachment requests, and to complete the installation of their facilities within 120 days after make-ready construction is complete.

Make-Ready Deadlines. The *Coalition* strongly opposes the April 21 NPRM's make-ready deadline proposals. Existing make-ready deadlines already are excessive and the subject of an earlier *Coalition's* pending Petition for Reconsideration. The earlier *Coalition's* Petition seeks to reduce the existing deadlines to a level more consistent with the realities of electric utility operations. Moving the deadlines in the other direction would be dangerous.

The envisioned proliferation of small cell wireless installations and the industry's experiences to date with small cell installations warrants a reexamination of wireless make-ready deadlines. Small cell installations use lots of equipment and are not really "small." Installations in the electric space (i.e., pole top) raise a host of operational and safety concerns. Finally, no one at the present time really knows how large-scale small cell installations will work.

Make-Ready in the Electric Space. It is vital that communications companies not direct make-ready work in the electric space, even with the hiring of utility-approved contractors. Communications companies are not qualified to oversee any such activity.

Extension Arms. The use of extension arms undermines good utility construction practice and should not be used to increase capacity on poles. There is no reason to change the existing rule allowing utility pole owners to restrict such practices.

Schedules of Make-Ready Charges. Schedules of make-ready charges are unworkable and of little value. Each job presents unique challenges and there are too many variables in any pole attachment request to make a list of "common" make-ready charges worthwhile. Schedules are also unnecessary, considering most utilities already provide estimates.

Capital Expenses in the Rental Rate. Eliminating capital expenses from the pole attachment rental rate makes no sense economically or from a regulatory perspective. The pole attachment rental rate is designed to allow the pole owner to recover a share of its costs of owning and operating the pole plant, and capital expenses are part of those costs, just as operational expenses are. Utilities have a Constitutionally-protected property right in the poles they own. Allowing attachers to occupy poles without paying any share of the utility's capital costs to own and maintain those poles constitutes an unconstitutional taking of utility property without just compensation.

Recovery of Out-of-Pocket Costs. Apart from the annual pole rental rate, utilities must be able to recover their out-of-pocket costs to accommodate attaching entities. These expenses are incurred to accommodate attachments, and are separate and apart from utility expenses to own and operate the poles.

The Tennessee Valley Authority Rate. The rental rate for attachments used for "commingled services" or for any cable or telecommunications service should be the rate adopted last year by the Tennessee Valley Authority ("TVA") for use by the numerous not-for-profit electric cooperatives and municipalities under its jurisdiction. On poles with three attaching entities, TVA allows utility pole owners to recover more than 28% of the annual costs of pole ownership from each attacher.

ILEC Rates. Numerous reasons exist why ILECs should not receive a lower attachment rate, and the *Coalition of Concerned Utilities* strongly opposes any effort to grant this unwarranted subsidy. Joint use and joint ownership agreements between pole owners are fundamentally different from third party attachment agreements. Joint use agreements give ILECs significant advantages over cable companies and CLECs, and in particular new attachers, and for that reason ILECs should not be entitled to a lower rate. Because ILECs fail to do what they are required to do under existing joint use agreements, any lower rate is even more unjust and unreasonable.

ILECs Would Have an Unfair Advantage. ILECs would have an unfair advantage over their cable company and CLEC competitors, particularly new attachers, because: (i) ILECs incur far fewer make-ready costs than new attachers; (ii) ILECs often can install attachments without waiting for approval from the electric utility pole owner; (iii) ILECs often avoid the post inspection costs and delays their competitors can experience; (iv) the lack of utility oversight of

ILEC attachment activity means ILECs can more easily overload poles or create safety violations, increasing make-ready expenses and slowing deployment times for new attachers; (v) electric utilities often obtain rights-of-way for ILECs; (vi) ILECs often are entitled to occupy a specified number of feet on the pole, ensuring room for ILEC facilities; (vii) ILECs occupy a better location on the poles; (viii) ILECs often avoid relocation and rearrangement costs; (ix) ILECs in some joint use agreements may collect rent for communications attachments on electric utility-owned poles; (x) ILECs have other rights on joint ownership poles; (xi) pole replacements can be less expensive for ILECs; and (xii) billing for ILEC-related work might be based upon outdated and relatively inexpensive cost schedules.

Existing Joint Use Agreements Should Be Honored. Existing joint use agreements should be honored when electric utilities do not have bargaining leverage, and in most cases they do not. Simply owning more poles does not give utilities bargaining leverage, since other factors make utilities completely dependent upon ILECs for access to ILEC poles. The Commission should expand the instances in which existing joint use agreements must be honored to include: (i) any joint use agreement with an evergreen clause; and (ii) any joint use arrangement where there is no practical alternative for the electric utility to get off the telephone company's poles. If an ILEC is deemed entitled to a lower rate, then all other provisions of the joint use agreement should be renegotiated at the same time.

Posting of Pole Plant Information. Finally, the Commission should reject proposals to gather and post information about utility pole locations, pole conditions, existing attachers, and available space for new attachments. These proposals are dangerous, extremely expensive, and of little or no value. Gathering and posting this information would be a colossal waste of resources.

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Arizona Public Service, Consumers Energy, Eversource, Exelon Corporation, FirstEnergy, Hawaiian Electric, Kansas City Power and Light, NorthWestern Energy, Portland General Electric, Puget Sound Energy, South Carolina Electric & Gas, and The AES Corporation (collectively, "the *Coalition of Concerned Utilities*" or "*Coalition*"), by their attorneys and pursuant to Sections 1.415 of the Rules of the Federal Communications Commission ("FCC" or "Commission"), 47 C.F.R. § 1.415, appreciate this opportunity to submit these Comments in response to the Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment released in this proceeding on April 21, 2017 ("April 21 NPRM").

I. FOREWARD

The *Coalition of Concerned Utilities* applauds the Commission for seeking "creative and common sense" pole attachment regulations to improve the process by which communications companies attach their facilities to electric distribution poles. Like the Commission and certain communications companies, the *Coalition* sees considerable room for improvement.

The process that the Commission, electric utilities and some communications companies would like to improve is the process by which communications companies install facilities on electric pole distribution systems carrying potentially hazardous electric currents. In seeking to improve the process, the *Coalition* appreciates the Commission's recognition that ensuring the safe and reliable operation of these electric distribution systems is paramount.

In the view of *Coalition* members, the April 21 NPRM drew much needed attention to existing communications attachers, whose actions and inactions have hampered the ability of new communications companies to compete. As explained below, utilities face a host of issues trying to manage existing communications attachments, and existing communications attachers should do much more to shoulder the burden of accommodating new attachers.

Over the years, electric utilities have gone to great lengths to accommodate communications attachers, devoting considerable personnel and resources to this task in a manner that has for many years been largely uncompensated. More and more personnel and resources are being required to accommodate more and more attachment requests, and some better form of compensation and better form of process should be developed to allow this system to work efficiently for all.

Ever since regulation of communications company attachments began, electric utility pole owners have voluntarily replaced poles to increase pole capacity to accommodate new attachers, despite having no requirement to do so.[1] For many years, electric utilities have diverted valuable, scarce resources from their own electric operations to accommodate communications attachments. Electric utilities must process attachment applications, perform engineering and design work for proposed attachments, perform make-ready construction to

[1] *Southern Co. v. FCC*, 293 F.3d 1338, at 1346-48 (11th Cir. 2002).

"make" the poles "ready" for communications company attachers, monitor, audit and inspect attachments once they are installed, perform numerous additional tasks that utilities would never have had to incur but-for the presences of communications attachers, and incur additional legal and contractor expense that they would not otherwise have to incur. Utilities have difficulty recovering more than a portion of these costs, and communications companies presently contribute very little to the other annual costs utilities incur to own and maintain their pole distribution plant.

Despite what *Coalition* members believe to be significant under-recovery of costs associated with their longstanding and sometimes extraordinary efforts to accommodate communications attachers, the April 21 NPRM contains proposals that would burden utilities even further. It seems that vocal communications companies, largely for self-interested reasons, are trying to persuade the Commission that utilities should do more.

Electric utility pole owners are overwhelmed with the burdens and limitations of existing pole attachment regulations, and many of these new proposals from communications company attachers would only increase these burdens and limitations. Scarce utility resources are being diverted to accommodate communications company attachers at insufficient compensation levels. And although existing communications attachers have already benefited by gaining access, new attachers now have more limited options. Today, new attachers are discovering that the existing communications space on poles is often cluttered and inefficient, largely through the actions and inactions of incumbent communications company attachers.

Given existing circumstances, the *Coalition* respectfully suggests that the best public policy is one that encourages all affected parties to resolve their attachment issues collaboratively, and to ensure that pole owners and attachers alike have the resources necessary

to keep the system functioning properly. As explained below, electric utility pole owners must be fairly and fully compensated for communications attachment activities, existing communications attachers must shoulder their fair share of the burden, and there must be incentives for all attachers to comply with important safety and operational requirements. Forcing electric utilities to shoulder even greater burdens, as some of the April 21 NPRM proposals suggest, is likely to lead to more problems.

II. INTRODUCTION

A. The *Coalition of Concerned Utilities*

The *Coalition of Concerned Utilities* is composed of a diverse group of electric utility companies in terms of size, attacher relationships and operational characteristics. The following is a brief description of the *Coalition* members.

Arizona Public Service - provides electric service to 1.2 million customers in 11 counties in Arizona. Arizona Public Service owns, in whole or in part, 517,506 electric distribution poles.

Consumers Energy - provides electric and natural gas service to 6.7 million people in Michigan's lower peninsula. Consumers Energy owns, in whole or in part, 1.8 million utility poles.

Eversource - has four electric distribution operating companies and provides electric and natural gas service to approximately 3.6 million people in New Hampshire, Massachusetts, and Connecticut.

- Connecticut Light & Power serves approximately 1.2 million customers in Connecticut.
- Public Service of New Hampshire serves approximately 505,000customers in New Hampshire.

- Western Massachusetts Electric serves 215,000 customers in Massachusetts.

- NSTAR Electric & Gas serves 1.2 million customers in Massachusetts.

Exelon Corporation - has six electric distribution operating companies, provides electric and natural gas service to approximately 10 million customers and owns, in whole or in part, approximately 3,075,000 electric distribution poles.

- Atlantic City Electric serves approximately 547,000 customers in New Jersey and owns, in whole or in part, approximately 392,000 electric distribution poles.

- Baltimore Gas and Electric provides electric service to more than 1.2 million customers and natural gas to over 650,000 customers in Maryland. BGE owns, in whole or in part, approximately 360,000 electric distribution poles.

- ComEd provides electric service to more than 3.8 million customers in Illinois and owns, in whole or in part, approximately 1.4 million electric distribution poles.

- Delmarva Power provides electric service to over 500,000 customers in Delaware and Maryland and natural gas service to approximately 129,000 customers in northern Delaware. Delmarva Power owns, in whole or in part, approximately 297,000 electric distribution poles.

- PECO provides electric service to more than 1.6 million customers and natural gas service to over 500,000 customers in Pennsylvania. PECO owns, in whole or in part, approximately 415,000 electric distribution poles.

- Pepco provides electric service to more than 842,000 customers in the District of Columbia and Maryland and owns, in whole or in part, approximately 211,000 electric distribution poles.

FirstEnergy - has ten electric distribution operating companies and provides electric service to six million customers. FirstEnergy owns, in whole or in part, approximately 4,100,000 electric distribution poles.

- Jersey Central Power & Light serves approximately 1,117,000 customers in New Jersey and owns, in whole or in part, approximately 317,000 electric distribution poles.

- Metropolitan Edison serves approximately 565,000 customers in Pennsylvania and owns, in whole or in part, approximately 345,000 electric distribution poles.

- Penelec serves approximately 588,000 customers in Pennsylvania and owns, in whole or in part, approximately 527,000 electric distribution poles.

- Penn Power serves approximately 165,000 customers in Pennsylvania and owns, in whole or in part, approximately 111,000 electric distribution poles.

- West Penn Power serves approximately 724,000 customers in Pennsylvania and owns, in whole or in part, approximately 634,000 electric distribution poles.

- Monongahela Power serves approximately 390,000 customers in West Virginia and owns, in whole or in part, approximately 653,000 electric distribution poles.

- Potomac Edison serves approximately 404,000 customers in West Virginia and Maryland and owns, in whole or in part, approximately 336,000 electric distribution poles.

- Toledo Edison serves approximately 310,000 customers in Ohio and owns, in whole or in part, approximately 220,000 electric distribution poles.

- Ohio Edison serves approximately 1,045,000 customers in Ohio and owns, in whole or in part, approximately 572,000 electric distribution poles.

- The Cleveland Electric Illuminating Company serves approximately 750,000 customers in Ohio and owns, in whole or in part, approximately 393,000 electric distribution poles.

Hawaiian Electric - has three electric distribution operating companies and provides electric service to 460,000 customers. Hawaiian Electric owns, in whole or in part, approximately 415,500 electric distribution poles.

- Hawaiian Electric Company provides electricity to approximately 304,000 customers on the island of O'ahu. Hawaiian Electric owns, in whole or in part, approximately 63,200 electric distribution poles.

- Maui Electric Company, Ltd., provides electricity to approximately 71,000 customers on the islands of Maui, Molokai and Lanai. Maui Electric Company owns, in whole or in part, approximately 26,500 electric distribution poles.

- Hawai'i Electric Light provides electricity to approximately 85,000 customers on the island of Hawai'i. Hawaiian Electric Light owns, in whole or in part, approximately 58,000 electric distribution poles.

Kansas City Power and Light - provides electric service to more than 800,000 customers in Kansas and Missouri. KCP&L owns, in whole or in part, approximately 555,000 electric distribution poles.

NorthWestern Energy - provides natural gas and electric service to over 700,000 customers in South Dakota, Nebraska, and Montana. NorthWestern Energy owns, in whole or in part, approximately 332,000 electric distribution poles.

Portland General Electric - provides electric service to more than 848,000 customers in Oregon. Portland General Electric owns, in whole or in part, approximately 245,000 electric distribution poles.

Puget Sound Energy - provides electric service to approximately 1.1 million customers and natural gas service to approximately 790,000 customers in ten counties in Washington. Puget Sound Energy owns, in whole or in part, approximately 325,000 electric distribution poles.

South Carolina Electric & Gas - provides electric and natural gas service to over 660,000 customers in South Carolina. SCE&G owns, in whole or in part, approximately 417,000 electric distribution poles.

The AES Corporation - has two electric distribution operating companies, and provides electric service to approximately one million customers. AES owns, in whole or in part, approximately 465,000 electric distribution poles.

- Dayton Power & Light provides electric service to over 520,000 customers in 24 counties throughout the Miami Valley in Ohio. DPL owns, in whole or in part, approximately 329,000 electric distribution poles.

- Indianapolis Power & Light provides electric service to more than 480,000 customers in Indianapolis and other central Indiana communities. IPL owns, in whole or in part, approximately 136,000 electric distribution poles.

Altogether, the *Coalition of Concerned Utilities* serves approximately 31,168,000 electric customers and owns, in whole or in part, approximately 12,247,000 electric distribution poles.

B. Electric Utilities and Communications Company Pole Attachments

Electric utilities construct, own and maintain millions of distribution poles that are used to deliver safe and reliable electric service to hundreds of millions of United States citizens throughout the country. Communications companies for many years have found these distribution poles convenient for the installation of equipment for their own cable television and telecommunications services. These companies and other new companies are now using electric utility distribution poles to facilitate their distribution of broadband and wireless services.

Electric utilities and communications companies are two different industries with different missions and visions who increasingly share the same physical plant for the distribution of their different services. In most cases it is the electric utilities which fully constructed, and now own, operate and maintain, the pole distribution system, while communications companies simply use it. While electric utilities are rate-based companies focused on the safe and reliable distribution of their essential services, communications companies are motivated solely by profit and a desire to deliver their services as quickly and inexpensively as possible and are no longer traditionally cost-of-service rate-base regulated.

Electricity drives virtually all of the key components of modern life, and the safe and efficient delivery of electric utility services is dependent upon a highly complex, interrelated series of processes. The *Coalition* urges the Commission to give great deference to electric utilities before imposing any new pole attachment regulations intended to benefit attachers but that will adversely impact the sound operation of electric distribution systems.

For decades, communications companies have attached their facilities to tens of millions of utility poles -- at artificial and extremely modest rates mandated by the Commission -- without incurring the substantial cost and inconvenience constructing and maintaining their own distribution systems. Cable companies, telecommunications companies and wireless companies simply "hop on board" at costs far below what they would have incurred had they been required to build-out their own systems.

The *Coalition* supports broadband and wireless deployments, but not at the expense of the safe, reliable and efficient operation of electric utility distribution systems. We therefore submit these comments to address our concerns.

Many costs incurred by electric utilities in accommodating government-mandated attachments are not recouped under the FCC's current rate formula, yet the Commission proposes to reduce the rates even further. Utilities today are often faced with more attacher requests than they can reasonably accommodate in due course, but the Commission proposes to impose new and unreasonable timetables and deadlines for responding to increasing attacher demands. Most importantly, while electric utilities struggle to maintain a safe and reliable system, the Commission proposes to advance broadband in ways that would aggravate electric utility safety and reliability concerns.

Collectively, if implemented, the proposals set forth in the April 21 NPRM could have a dire impact on electric utility operations across the country. While the electric utility distribution network may be a cheap and convenient vehicle for cable, telecommunications, broadband and wireless communications companies to use as a platform for deploying their own services, its primary function is to support the safe and efficient distribution of electricity to consumers across the country. High voltage electric lines pose significant danger to those not appropriately

trained or working in compliance with OSHA and other safety standards. Pole attachments are a deadly serious, critically important matter, with broad implications for the reliability of the nation's electric grid and the personal safety of those who work on or near poles, attachments and energized lines. The *Coalition* urges the Commission to exercise extreme caution in adopting any rule changes that could adversely affect the delivery of electric utility services or undermine the viability of the electric utility's infrastructure. The *Coalition* complies with federal, state, and, when applicable, local code and operating requirements for safe work and construction practices which MUST be incorporated into any Commission action and be required of the communications attachers.

III. COMMENTS

A. Communications Company Attachers Are Delaying the Process and Creating Unnecessary Burdens for New Attachers And Electric Utility Pole Owners

Efforts by companies like Google Fiber to enter existing markets using existing distribution pole infrastructure has highlighted a fact that electric utility pole owners and existing communications attachers have known for a long time; existing communications attachers make it more difficult, more expensive and more time consuming for new communications companies to gain access to utility pole distribution systems.

As explained below, there are three ways that existing communications company attachers make it more difficult, expensive and time consuming for new attachers: (1) existing communications companies are slow to relocate and transfer their existing attachments to make room for the new attacher; (2) existing communications companies have installed unauthorized attachments and created safety violations that slow down the new attacher process and make it far more expensive; and (3) the unused facilities that existing communications companies fail to

remove when they upgrade their systems occupies much-needed capacity the new attacher would be able to use if those unused facilities had been removed.

1. Communications Company Attachers Cause Problems by Delaying Their Transfers

a) Communications company transfer delays slow down the attachment process for new attachers

In the experience of *Coalition* members, when existing communications company attachers need to transfer or relocate their own facilities to accommodate a new attacher, scheduling the work and having the existing attacher stick to the schedule is very difficult. This delay results in unnecessary higher costs for the new attacher when they arrive at the pole to find the work has not be done, and it potentially jeopardizes the contract the new attacher has with its customer.

The fact that existing communications attachers are competitors to new entrants means they have no incentive to accommodate the new attachers. It also often appears that neither the new attachers nor the existing attachers have budgeted sufficient funds for the necessary make-ready work. And with new attachers concerned about prompt service to new customers, the intransigence of existing communications company attachers can contribute to new waves of safety violations and unauthorized attachments. This compounds the problems of safety violations and unauthorized attachments that existing attachers already have created because of their own, earlier need to access their customers swiftly.

Communications attacher delays in relocating or transferring facilities varies from attacher to attacher, and region to region. Puget Sound Energy keeps track of overdue transfer tickets and reports that more than 45% of all tickets involving transfer of existing communications company facilities to new poles are overdue. FirstEnergy sampled data from three FirstEnergy operating companies which revealed that non-FirstEnergy work required an

average of 200 days to complete. Arizona Power indicates that transfer work sometimes takes more than ten years.

b) Communications company transfer delays create "double wood" conditions that delay the process, generate unnecessary expenses, and are potentially hazardous

When an existing pole is replaced with a taller pole to accommodate a new attacher, or when the useful life of a pole is expired and is replaced, attachments on the old pole must be transferred to the new pole. If all of the attachers do not show up in a timely manner to transfer their facilities, the electric utility pole owner must install the new pole and transfer its electric facilities to the new pole, leaving the existing pole in place right beside it to continue supporting the communications facilities that have yet to be transferred. This creates a "double wood" condition that is an eyesore, is potentially unsafe, creates numerous customer complaints, and is disfavored by many local municipalities and states. Photographs of double wood conditions are attached here at Exhibit A.[2]

Double wood conditions can significantly upset utility operations, to everyone's detriment. Several *Coalition* members report that core utility business activity is being disrupted in some of the larger cities or with state Department of Transportation ("DOT") projects because these cities and state DOTs are refusing to issue new permits when there are extensive outstanding double wood conditions. These non-issued permits in some cases might be needed to accommodate new attachers. Even if obtaining permits is not an issue, the double wood condition can sometimes make it harder for new attachers to attach to the new pole. Finally,

[2] Puget Sound Energy reports that 77% of the 3,658 double wood conditions in its service territory cannot be removed due to existing communications facilities still being attached past the time allotted to transfer their facilities. Hawaiian Electric reports that on Oahu approximately 15% of its jointly-owned poles have double wood conditions.

double wood conditions divert limited electric utility resources to activities other than accommodating new attachers and running the core utility business.

These difficulties for new attachers are in addition to the problems caused by the eyesore and potential public safety issues associated with double wood conditions. Double wood conditions are unattractive, may create a larger "target" for automobiles to hit, sometimes involve rotted poles that must be removed for safety reasons, and in most cases necessitates the "topping" of the old pole to remove the top portion after the utility transfers its facilities, thereby potentially degrading the pole. For these and other reasons, double wood conditions generate considerable complaints from utility customers, property owners, municipalities, state regulatory commission field staff, and other public officials.

To avoid double wood conditions, each individual attacher must show up at the right time, in sequence, to transfer their facilities to the new pole. If an attacher shows up and the attacher above it has not yet transferred its facilities, then the attacher that showed up cannot do its transfer work and must return to the site to try again later. Of course, this unnecessary time and effort only adds to the monetary cost of the transfers. Most communications companies do not budget sufficient dollars to handle the necessary maintenance activities for their existing plant under the best of circumstances. Increases in the number of visits to the site to complete their transfer or other modification only increases the cost, resulting in less money left over for other necessary work to remain a responsible pole attachment tenant. For some existing communications attachers, actively managing their existing backlog of transfers and adjustments is overwhelming.

The sheer volume of work and coordination that is needed often calls for a single entity with full rights to modify all communications company cables to manage this communications

company effort. Some utilities are trying to get their major attaching parties to agree to a common contractor that can handle communications company transfers and make ready adjustments to clear up double wood issues. But while many are in favor of this process, it only works if all attachers agree to it and contribute their fair share of the costs to accomplish the task. If one major attacher holds out, it ruins the possibility of this common transfer agreement working.

2. Communications Company Attacher Unauthorized Attachments and Safety Violations Cause Unnecessary Delays and Expense for New Attachers

Unauthorized attachments and safety violations caused by existing communications company attachers have been a problem for electric utility pole owners for a long time. They are also a problem for new attachers seeking access to the poles.

Unauthorized attachments occupy space that would otherwise be available to a new entity seeking access to a pole. When the new attacher shows up, the unauthorized attachment is in the way and there is no available space to attach. Unauthorized attachments also delay the make-ready evaluation process. Because the attachment is not recorded in existing records, the owner of the attachment must be determined. Existing loading analyses did not account for that attacher and are therefore no longer valid, and coordination can be difficult for both the utility and new communications attacher to work around the unauthorized attachment.

For all these reasons, unauthorized attachments by existing communications companies make the process for new attachers more expensive and time consuming.

Unauthorized attachments also contribute to the very large number of safety violations caused by existing communications company attachers. Pre-existing safety violations must be corrected before the new attacher may install its facilities, making it more time consuming and expensive for new communications companies to attach. The make-ready engineering process is

delayed because the utility must figure out a solution to the safety violation in addition to accommodating the new attachment. It is more expensive because there simply is more work to be done, potentially including pole replacements, in order for the new attachment to be affixed safely. Since the existing communications company attachers are in no hurry to accommodate a new attacher, this additional delay and expense caused by existing communications attachers can lead to even more safety violations caused by new attachers in a hurry to serve their customers. In addition, of course, unauthorized attachments and safety violations divert limited electric utility resources to activities other than accommodating new attachers.

None of this additional time and expense associated with unauthorized attachments and safety violations would be incurred by the new attacher if the existing communications attachers had complied with the rules earlier and paid for a taller pole or paid for other necessary make-ready so that it could install its facilities safely.

3. The Failure of Communications Company Attachers to Remove Unused Attachments is Creating Unnecessary Delays and Expense for New Attachers

Given the increasing congestion on existing distribution pole plant and the additional time and expense incurred by new attachers seeking access to these congested facilities, it would be helpful for existing attachers to remove those facilities that they no longer use from the poles. Unfortunately, without a rule requiring them to do so, the unused facilities of existing communications attachers are occupying precious space and pole load that could be used by new communications attachers.

Overlashing is one example of where unused equipment is left on the pole. Overlashing is the process by which existing communications wires are overlashed by new communications wires, and has been used by communications attachers for decades to expand their service offerings. Over this period, however, overlashing has resulted in bundles of cables that have

dramatically increased the wind and ice load on poles, often filling up the load capacity on a pole line so that there is no longer any capacity available when new attacher comes along. Photographs of overlashing are attached hereto at Exhibit B.

Part of the problem with overlashing is that when new fiber is installed, it overlashes old coaxial cable, obsolete fiber and other facilities that are no longer needed. This has allowed bundles of overlashing to create far more wind and ice load than is necessary. The practice of abandoning old plant in place and over lashing new plant to the existing strand and wire is a cost saving measure for the existing communications attacher, but this temporary cost saving measure often works to the detriment of new attachers. Abandonment increases the load on the poles because the increase in diameter leads to a corresponding increase in wind and ice loading. The practice of abandonment thus increases the probability that when a new attacher comes along, the pole will fail its structural review and require replacement.

Not only is overlashing unused facilities a problem, unauthorized overlashing causes expense and delay for new attachers, since the unauthorized overlashing causes the cable to sag below National Electrical Safety Code "(NESC") clearance standards, requiring a taller pole to accommodate the new attacher and the existing overlasher.

Another example of unused communications facilities unnecessarily occupying pole space and pole load to the detriment of new attachers is telephone company copper wiring. A large portion of the April 21 NPRM is devoted to the telephone company transition from copper wiring to fiber optic cables, and this wiring will be transitioned to fiber in due course in accordance with the Commission's rulings. But when this copper wiring does get replaced with fiber, there should be a requirement that telephone companies remove their copper wiring from utility poles after the transition. These abandoned in place facilities that are no longer being used

to send communications through should not be allowed to continue to occupy space and create pole loading that prevents new attachers from gaining access. It is anticompetitive to allow existing communications companies to save some small amount of time and expense by keeping unused attachments in place, if the result is to dramatically increase the cost and expense for new attachers.

B. The *Coalition* Respectfully Proposes Several Solutions to The Problems of Communications Company Transfer Delays, Unauthorized Attachments, Safety Violations, And Unused Attachments

These problems associated with communications company transfer delays, unauthorized attachments, safety violations and the wasteful continued attachment of unused facilities cannot be resolved overnight, but the *Coalition* respectfully proposes the following measures to begin resolving those problems. All of these proposed remedies would speed up the make-ready process, make it less expensive for new attachers to attach, promote the safe, reliable and efficient distribution of electric and communications services, and preserve very limited electric utility resources for more important activities.

1. One-Touch Make-Ready Should Be Allowed in The Communications Space Using a Utility-Approved Contractor

The *Coalition* supports the use of one-touch make ready work in the communications space on the pole under the following conditions:

a) The one-touch make-ready work must be limited to moving communications company facilities.

b) The electric utility should have the option (but not the obligation) of assuming control over the one-touch make-ready contractor.

c) Communications attachers must be required to meet regularly for one-touch make-ready to work.

d) To provide incentives for existing communications company attachers to perform complex make-ready work in a timely

manner, the new communications attacher should be entitled to fine the existing communications company attacher as much as $500/pole/month for any communications company delay in performing complex make-ready.

e) The new attacher must post a surety bond or other security in case existing attachments are damaged.

f) The new attacher (and new attacher only) must indemnify existing attachers for damages or injuries

g) The new attacher should pay for most of this one-touch make-ready process. If the process is implemented for its benefit to give the new attacher speed to market, this provision is needed to avoid the tug-of-wars about who is going to pay.

h) For larger build outs, a contract will be needed to manage everything behind the scenes, like material handling, getting poles set, coordinating outages, getting permits, etc., etc.

In addition, the *Coalition* proposes that utilities and attachers be free to agree on their own one-touch make-ready process, as NorthWestern Energy has done.[3]

[3] The NorthWestern Energy process is called "One Stop" and is similar to one-touch make-ready. The majority of NorthWestern's active attachers participate. NorthWestern's One Stop process works as follows:

1. The new attacher submits an application to attach (or overlash) through Notify (Alden product)
2. Notify will split the application if there are poles owned by both the communication company and the utility company.
3. The pole owner approves the application and forwards it on to the engineering company which has been selected for the One Stop to begin the survey and engineering process.
4. The engineering company surveys the poles, collects all measurements from current attachments both on the pole and midspan, collects elevation data and photos of each pole, etc.
5. All data is processed through engineering software to determine pole loading, review spacing to comply with NESC and utility building standards, and to identify any existing violations. The new attachment data is then added to evaluate pole again with new attachment. A determination is then made about what make-ready work is needed.
    a. The pole owner is provided a copy of the engineering to review.
    b. If existing violations exist, the engineering company contacts the cost causer to inform them of the violations and the costs to correct.
    c. If make-ready work is needed for the new attachment, the engineering company determines the costs and presents the costs to the new attaching company.
6. Once the engineering, make-ready work and costs are approved, the engineering company submits invoices to all cost causers.
7. Upon payment by all cost causers, the engineering company provides the required make-ready work to the utility IBEW-approved contractor and/or telecom technicians, depending on where the make-ready work is required on the pole to schedule.
8. Additional fees outside of the cost per pole for engineering are assessed by the engineering company for all the coordination they are involved in.

2. Existing Attachers Must Remove Unused Attachments, Including Unused Cables in Overlashing Bundles and Unused Copper Wires

This simple requirement is needed to make room for new attachers and reduce pole loads, as explained above.

3. New Attachers Should Be Entitled to File Pole Attachment Complaints Against Existing Communications Attachers Who Do Not Comply with The Make-Ready Requirements

The provision would allow new attachers to encourage existing communications company attachers to transfer their facilities and perform their other make-ready work in a timely manner.

4. If A New Attacher Seeks to Attach to A Pole That Has Unauthorized Attachments on It, Then the New Attacher Should Pay for The Make-Ready but Be Entitled to Seek Reimbursement from The Unauthorized Attacher For the Entire Make-Ready Expense

The provision discourages unauthorized attachments and allows new attachers to recover make-ready expenses caused by unauthorized attachments.

5. If A New Attacher Seeks to Attach to A Pole That Has Pre-Existing Safety Violations on It, Then the New Attacher Pays for The Make-Ready but Can Seek Reimbursement of 100% of the Expense from The Communications Company Entity on The Pole That Caused the Violation. If the Cause of The Violation Cannot Be Determined, The New Attacher Pays for The Make-Ready but Can Seek Reimbursement of the Expense on A Pro Rata Basis with Any Communications Company Entity on The Pole That May Have Caused the Violation.

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a. 13% of the make ready work cost is charged to the cost causer for Construction and Administration (C & A)
b. 2% of total make ready work cost is charged to utility for C & A. NorthWestern pays 2% of this to show we are committed to this process being best for all players.

9. Once the make-ready construction work is completed and the new attachments are installed, the engineering company performs a post inspection. If there are any deficiencies with the make-ready construction work or new attachment installations, the engineering company contacts the appropriate party.
10. All communication through these steps is done through Notify which is saved and time stamped.

The provision discourages safety violations and provides a mechanism to resolve disputes about who should pay to fix them.

6. If the Utility Pole Owner Needs to Do Work That an Existing Attacher Should Be Doing Itself (e.g., Transferring Attachments, Removing Unauthorized Attachments, Fixing Safety Violations), Then the Utility at Its Option May Do the Work and Charge Its Fully Loaded Costs Plus 20%, Without Incurring Any Liability to The Existing Attacher.[4]

This provision discourages lackadaisical communications company attacher behavior that (i) slows down the process and makes it more expensive for new attachers, and (ii) diverts valuable and limited utility resources away from utility work, including utility work for new attachers.

7. Utility Pole Owners Should Be Allowed to Require All Attaching Entities to Participate at Their Expense in An Electronic Notification System of The Utility's Choosing.

This provision allows utilities and attachers alike to communicate more effectively and to facilitate the necessary make-ready, transfer and other work associated with attachments.

8. Utility Pole Owners Should Be Allowed to Stop Processing New Applications and To Retract Attachment Permits for Affected Poles If an Existing Attacher Fails to Comply with The Pole Attachment Agreement.

This provision encourages attachers to perform work they need to perform to make the attachment process operate more efficiently.

9. Utility Pole Owners Should Be Allowed to Sanction Existing Attachers For Unauthorized Attachments and Safety Violations.

Unauthorized and unsafe pole attachments can and do compromise the safety and reliability of the electric system, and inhibit pole access for responsible attachers. Sanction rules are necessary to hold attachers (and their representatives) accountable for their work.

[4] This is consistent with Oregon Administrative Rule 860-028-0150(2), which states that if certain conditions are met, the pole owner may charge the licensee the actual cost plus 15% to correct a violation.

Portland General Electric's experience has been that sanction rules have been successful in this regard, while at the same time promoting a culture of safety, compliance, and collaboration between pole owners and attachers. They are necessary to promote safe and compliant pole attachment construction.

The Commission currently permits utilities to enforce a contract provision addressing unauthorized attachments as follows:

> An unauthorized attachment fee of five times the current annual rental fee per pole if the pole occupant does not have a permit and the violation is self-reported or discovered through a joint inspection, with an additional sanction of $100 per pole if the violation is found by the pole owner in an inspection in which the pole occupant has declined to participate.[5]

This provision mimics the same provision in the Oregon pole attachment rules.[6]

The Oregon rules, however, have another provision calling for a sanction of $200 per pole for safety violations and violations of pole attachment agreements.[7] The *Coalition* believes the Commission should adopt that sanction too.

C. New Attachers Should Be Better Prepared for the Work They Request

Coalition members have found new attachers to be unreasonably demanding, waiting until the last minute to make attachment requests and then pushing for quick turnaround times, sometimes demanding to attach even before the permits are issued. New attacher applications sometimes do not comply with the utility's standards and problems are discovered only after work orders are generated and work commences. New attachers also could do a better job coordinating work with their surveyors and coordinating the make-ready activity of existing

[5] *In the Matter of Implementation of Section 224 of the Act*, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240, 5291 at ¶ 115 (2011) ("*April 2011 Pole Attachment Order*").

[6] OR. ADMIN. R., 860-028-0140 (2017).

[7] *Id*. at 860-028-0150.

attachers. In addition, once make-ready engineering, design and construction work has been completed, even on an expedited basis, new attachers are sometimes ill-prepared to install their attachments in a timely manner. This wastes the time of valuable utility personnel and ties up distribution plant resources for indefinite periods of time.

To encourage better planning and management by new attachers and avoid wasting valuable utility resources, the Commission should require new attachers to plan further in advance for any future attachment requests, and to complete the installation of their facilities within 120 days after make-ready construction is complete.[8]

D. The *Coalition of Concerned Utilities* Strongly Opposes the April 21 NPRM's Make-Ready Deadline Proposals

1. The Commission's Existing Make-Ready Deadlines Are Already Excessive and Are the Subject of The *Coalition's* Pending Petition for Reconsideration

Following the Commission's April 7, 2011 Pole Attachment Order, which promulgated make-ready deadlines for the first time, a *Coalition of Concerned Utilities* filed a Petition for Reconsideration, which is attached hereto at Exhibit C. The *Coalition's* Petition is still pending.

In its Reconsideration Petition, the *Coalition* asks the Commission to revise the deadlines to better recognize utility operational constraints. To bring the make-ready deadlines more into line with the reality of electric utility operations, the *Coalition* proposes that the lower limit on the number of attachment requests subject to the deadlines be reduced from 300 to 100 poles, and the upper limit reduced from 3,000 to 500 poles.[9] Both limits should apply to attachment

[8] OR. ADMIN. R. 860-28-0100(4)(a) and (b) require attachers to complete their project within 180 days, and the attacher must notify the pole owner within 45 days after the project is complete.

[9] For comparison purposes, if an application in Oregon exceeds 50 poles, or one-tenth of one percent of the owner's poles, whichever is less, over any 30-day period, then the parties must negotiate a mutually acceptable longer time frame to complete the approval process. OR. ADMIN. R.860-028-0100(7) and 860-028-0020(32). Vermont provides for a sliding scale that begins with at least 120 days to complete the make-ready estimate and perform make-ready work, "unless otherwise agreed by the various parties, and except for extraordinary circumstances and reasons beyond the

requests made by all attaching entities per month, not just by a single attaching entity. The deadlines should not apply to the extent that make-ready work would require any attacher that is not a cable television system or telecommunications service provider (e.g., municipality) to move its facilities, or to pole replacements or the installation of new poles necessary to accommodate additional attachments. The Commission should also expand the grounds to "stop the clock" and toll the make-ready deadlines (e.g., seasonal storms, government permits, private property easements, preexisting safety violations).

Many of the same arguments such *Coalition* raises in its June 8, 2011 Reconsideration Petition are echoed by these *Coalition* members today in response to the Commission's suggestions that the make-ready deadlines should be shortened further. This *Coalition* strongly opposes any further effort to shorten the timeframes.

For example, requiring surveys to be performed in 15 days rather than 45 days would be near impossible for most utilities.[10] It often takes communications companies longer than 15 days just to plan and develop their route plan without any engineering being performed at all. Thereafter, it requires time to drive to the proposed area (which for some *Coalition* members with large territories can be far away), collect all measurements and photos from each of the poles, verify conductor sizes with appropriate personnel, return to the office and process the data

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Pole-Owner's control." Vermont Public Service Board, Rules 3.708 (B)(2), (C) and (E). The New Hampshire PUC adopted pole attachment regulations that require most make-ready work to be completed by pole owners within 150 days following pre-payment of make-ready estimates, while the estimates themselves (for 200 poles or less) must be provided within 45 days after application. See N.H. CODE ADMIN. R. Puc §§ 1303.12 and 1303.04 (2009). In Utah, pole owners must provide make-ready estimates for applications of 20 poles or less within 45 days, and must complete make-ready work within 120 days after the initial payment of the make-ready estimate. For applications greater than 20 poles but less than 300 (or .5% of the owner's poles in Utah, whichever is lower), the make-ready estimate is due within 60 days and construction must be completed 120 days after payment. For applications greater than 300 (or .5%) but less than 3,000 (or 5%, whichever is lower), the make-ready estimate is due in 90 days and the time for construction is extended to 180 days after payment. For applications greater than that, the timeframes are negotiated. All applications within a single month are counted as a single application, and the pole owner has the flexibility of justifying longer timelines based on anticipated delays. See UTAH ADMIN. CODE. R. R746-345-3.C (2017).

[10] This expedited timeline would be competing for faster turn-around times than the utility's new business customers.

through engineering software, determine what make-ready work is necessary to remain compliant with the NESC and utility building standards, and then assess any violations and determine the cost causer. And all of this is supposed to be done no matter what the utility's other work load is like, and no matter whether the very specialized and in-demand utility design personnel are available. Utility pole inspectors and designers already have a full plate. To expect them to drop everything to accommodate periodic attacher demands is unrealistic. Instead, new attachers should take the responsibility to plan their projects in advance and submit requests proactively rather than on an emergency basis.

It takes careful effort to maintain and operate critical electric infrastructure. If inspections and surveys are rushed, the attachments are not properly measured, and wind and ice loading analyses are not performed, then attachments could be installed out of compliance with applicable codes, presenting safety and reliability risks. Rushing the application process could cause utilities and attachers to take short cuts that might endanger lives and create huge liability issues for electric utilities to meet the new deadlines. Some attachers already attempt to submit applications based solely on Google Earth photos without ever visiting the site. Utilities and the public cannot afford such shortcuts.

The proposal to reduce the time for preparing make-ready estimates from 14 days to 7 days is unreasonable from a practical perspective but also raises safety issues. Whether this deadline (like all the make-ready deadlines) can be met depends of course on the size and complexity of the job and on whatever other work is being done at the time. Cost assessment work is engineering-intensive and required to provide the necessary information to the attachers. Following the survey work, preparing a make-ready estimate requires engineering and design work, a pole loading analysis, data entry, and at times another field visit. And designers have

their normal work to complete. Shortening the timeline could create frustrations and errors in engineering and costs calculations. Engineering errors can cause safety issues.

Similar issues exist with respect to the new proposal to require make-ready construction to be completed within 30 days of payment of the make-ready estimate instead of 60 days. Utilities often find it difficult to meet the 60-day deadline right now. This short time frame is inconsistent with the need for utilities to follow all local permitting regulations, to follow proper safety protocols, and to allocate sufficient time to get the work completed.

Puget Sound Energy reports that the average time municipalities and other government authorities are taking just to process permit applications has gone from 4 weeks to 8 weeks or more. That would make any make-ready work within 30 days impossible.

A 30-day window to process a single attacher's requests to attach to 300 poles would require 10 poles to be processed a day. These poles need to be inspected, wind loading calculations need to be completed and the design needs to be completed. Most utilities do not have the manpower to process these requests so quickly. Sometimes requests from the attachers are submitted in an unorganized fashion which causes the utility to conduct further research to identify which poles need to be analyzed. At times these poles are located some distance away, and this 30-day requirement does not consider additional drive time, processing or field obstacles that could arise.

In addition, it must be noted that joint use make-ready work requested by communications attachers is competing for the attention of utility linemen with other very necessary electric utility work, which includes new construction, growth, pole replacement (both rejected and damaged), and work needed on the transmission system. And adding utility line crew resources is not simply a matter of picking up the phone and ordering an attachment to-go.

Qualified journeymen are a limited resource. It takes five-seven years to qualify a journeyman lineman versus perhaps six months for a communications installation worker. Journeyman linemen must operate very specialized and protective equipment designed to operate around high voltage conductors and equipment. The installation of communications coaxial cable and fiber is known to have been performed from a pickup truck or panel van. The training requirements and timeframes for line crews are therefore far more stringent and longer. Moreover, even if qualified contractors were available to perform this work, many union agreements place restrictions on the percentage of such work that can be done by contractors.

Finally, there is the aspect of safety. Reducing timeframes often has the result of forcing people to rush or to overwork. That may be effective over a short period, but it is not sustainable. Rushing work is not conducive to safety. Electric utilities are extremely conscious of safety and reliability, utilizing safe work practices based on proven methods, and being careful to comply with federal, state and local regulations to provide safe, reliable delivery of electric service.

2. Small Cell Wireless Attachments Take Considerably Longer Amounts of Time to Approve and Process.

One very significant industry change that has occurred since the Commission's April 7, 2011 Pole Attachment Order ("April 2011 Pole Attachment Order")[11] is the growth, and enormous projected growth, of "small cell" wireless antenna deployments.[12] These changes warrant a reexamination of make-ready deadlines in light of what we have learned over the last six years.

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[11] *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, Report and Order and Order on Reconsideration, WC Docket No. 07-245, GN Docket No. 09-51, 26 FCC Rcd 5240 (2011) ("April 2011 Pole Attachment Order").

[12] *See Comment Sought on Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling*, Public Notice, WT Docket No. 16-421, DA 16-1427 at 4-5 (rel. Dec. 22, 2016).

To begin with, “small cell” antenna network installations are often not “small” at all. Attached at Exhibit D are photographs of recent small cell installations. These photographs depict sizable equipment occupying considerable amounts of space on electric distribution poles, which often is a taller pole installed to accommodate the space needed for the equipment.

Although make-ready deadlines exist that apply to wireless attachments, these installations clearly require review of considerably more equipment than traditional wireline attachments, so that equipment review, wind and ice loading calculations, and structural integrity analyses takes more time. Because a wireless configuration vertically covers multiple areas of the pole, multiple departments of some utilities are required for the approval and make-ready process, along with any necessary joint pole owner approvals. And, of course, wireless equipment raises radiofrequency exposure and radiofrequency interference issues that take further time to analyze and prepare for. Finally, to the extent the wireless provider seeks to install this equipment in the electric space on the pole (*i.e.*, on the top of the pole), it raises heightened concerns regarding access and non-interference with energized conductors. Work in or around energized conductors is potentially hazardous, and any potential interference with energized conductors is a potential safety risk.

Regardless of what we know so far about small cell antenna installations, there is still far too much that we still do not know to be able to discuss make-ready deadlines with any certainty. At the present time, almost nothing is known about how large-scale small cell installations will work or what applicable timeframes might be practical. Even the wireless carriers do not know. Instead, the installation of new small cell rings that has just begun and the testing of 5G wireless test rings mark only the beginning of a learning process for the electric utility pole owners, for the municipalities and for the carriers. It is simply too soon to tell what kinds of impositions, if

any, should be placed on electric utility pole owners to try to accommodate large scale wireless deployment requests. For safety reasons alone, any decision regarding small cell wireless access to utility poles should await further experience.

And when any final decision is made about this and other timelines, perhaps the timeline requirements should cover only average time requirements, rather than requiring timeline compliance on every occasion for every request.

E. Communications Companies Cannot Direct Make-Ready Work in the Electric Space for Very Important Safety Reasons

The April 21 NPRM proposed that utilities be required to maintain a list of contractors qualified to work in the electric space.[13] It is unclear what this requirement is intended for. The *Coalition of Concerned Utilities* notes that the April 2011 Pole Attachment Order clearly limited communications company self-help remedies to make-ready work in the communications space on the pole, leaving all electric space make-ready work to the electric utility pole owner. The April 21 NPRM seems to be blurring this delineation.

Consistent with the April 2011 Pole Attachment Order, the *Coalition* respectfully requests that the Commission clarify that communications attachers may not hire contractors to perform work in the electric space on the poles. It is vital that communications attachers not have any authority to direct make-ready activity in the electric space. For good reasons, many utilities will not allow anyone in the electric space except utility personnel and utility contractors under their control and supervision. Performing work in the electric supply space requires certified education and training, and on the job apprenticeship to a journeymen lineman. Only then are personnel considered qualified to work in the electric space unsupervised, and yet

[13] *April 21 NPRM* at ¶ 16.

utilities still see accidents occurring. The electric space on utility poles is not an area to be taken lightly.

Design and construction standards, along with work practices, vary from utility to utility. Line crews need to be familiar with those standards, practices and protocols, and of course must be intimately familiar with NESC requirements. Communications companies are not able to supervise activity that requires intimate knowledge of NESC requirements and utility standards, practices and protocols, because they have demonstrated a severe lack of knowledge and understanding of applicable NESC requirements and inability to follow utility standards.[14]

F. Extension Arms Should Not Be Used to Increase Pole Capacity

The April 21 NPRM requests comments on whether utility pole owners should allow extension arms to be used to expand capacity on the pole.[15] The use of extension arms undermines good construction practice, by compromising worker safety, system reliability and efficient system operation. As such, any use of extension arms should be at the sole discretion of the utility pole owner. The current FCC rule, which was reached after a full analysis leading up to the April 2011 Pole Attachment Order, is that pole owners are entitled to prohibit or place

[14] Communications companies have created a sense among utilities that they have low competence and cannot be trusted. Some examples that have created this sense among utilities include: (i) the regular occurrence of attaching incorrectly; (ii) installing strand-mounted wireless antennas without notification or application; (iii) the inability to correctly fill out and submit applications; (iv) trying to deceive the pole owner about the required pole type in order to avoid a cost; (v) submitting a structural analysis report on a tower based on a lower than required wind speed, containing so many caveats as to be useless; (vi) providing wireless construction drawings for a utility pole site which fail to show any of the utilities attached facilities; (vii) accessing substation properties to trench in fiber to a cell site without notification – including digging up and cutting the station perimeter ground ring; (viii) using a ladder to climb over a substation fence in order to access the control house to plug in an extension cord; (ix) providing a crew for a wireless site build on a transmission pole who spoke no English; and (x) the unwillingness or inability to attract individuals who understand utility work and infrastructure.

[15] *April 21 NPRM* at ¶ 11.

restrictions on boxing and extension arms altogether going forward, if the prohibition or restriction is enforced in a nondiscriminatory manner.[16] There is no reason to change this rule.

There are good reasons why certain utilities prohibit extension arms altogether or place restrictions on their use. Extension arms make it more difficult and hazardous for climbers to access the pole. Extension arms extend beyond the vertical space on the pole thus creating a climbing hazard and even raising the possibility that someone falling from a pole could get caught on that extension arm on the way down. These climbing problems are exacerbated during storms and in other inclement weather when it is more likely that poles will be climbed. In addition, because they extend out from the pole, extension arms also make it more difficult for those in bucket trucks to access poles.

Extension arms cause pole loading concerns too. The cantilever effect of projecting out from the pole results in an extraordinary amount of weight and load being concentrated in a specific area. This concentration is particularly acute when wind and ice loading is factored in.

G. Schedules of Make-Ready Charges Are Unworkable and Of Little Value

The make-ready process is too variable and complex to allow most utilities to create any meaningful list of "common" make-ready charges. The fees charged for make-ready work depend too greatly on the requirements of each specific job. Each job presents unique challenges pertaining to accessibility, terrain, varying pole types and sizes, the electric build and voltage, coordination necessary with existing attachers, scheduled outages, traffic, and rights-of-way issues that could affect make-ready charges. The location of the pole alone can vary the make-ready expense (*e.g.*, in a road right-of-way, in a rear lot, in rock, in marsh or wetlands, in an off-road right-ow-way, in high-traffic areas requiring a flagging contractor, over navigable

[16] *April 2011 Pole Attachment Order* at ¶ 227.

waterways, over interstate highways, etc.). There is also no way to predict how many trips to the pole that a utility line department would have to make before all communications company attachers have completed their transfer.

Since at any given time, the costs associated with pole replacements depends upon the size of pole and what is on it, so make-ready charges to replace a pole could range from $800 to $6,000 or more. Material costs are tied to supplier costs which vary with time. Direct and indirect labor costs also vary and must be updated independent of material costs. Even if a schedule of "common" make-ready charges could be developed, the disclaimers and exceptions necessary would make the list of common costs worthless.

Any list of common make-ready costs would also be meaningless without performing the engineering at specific locations anyway to determine what needs to be done. Since most communications companies lack this engineering expertise, it is questionable whether any list of "common" make-ready charges would do them any good even if the list had no disclaimers at all. The only meaningful way to approximate in advance what a particular job might cost is through experience, not through any list of "common" make-ready charges.

Posting schedules of make-ready fees is also unnecessary. Most utilities already routinely provide attachers with estimates that specify anticipated make-ready charges. If make-ready estimates for one route are too expensive, attachers have access to information sufficient to determine whether an alternative route may be preferable.

Confidentiality also is a concern, since many make-ready contractors would not want their fees to be posted online. Plus, fees charged by contractors often are negotiated separately, vary depending upon the volume of work, and change with the passage of time.

Finally, any requirement that utility pole owners post schedules of make-ready charges might create disputes for the Commission to resolve regarding the sufficiency and accuracy of the schedule, how the posted rates should apply, and whether circumstances for any particular case justify deviation from the posted rates.

For these reasons, trying to calculate per pole make-ready fees of $300 per pole, $400 per pole, $500 per pole, or any other figure similarly makes no sense.

The April 21 NPRM also requests comments on whether utilities should somehow reimburse make-ready charges if the utility somehow later benefits from the make-ready work.[17] But all existing attachers, including the new attacher after its facilities are installed, potentially might expand capacity at a later date and so "benefit" from the earlier make-ready work. There is thus no reason why the utility pole owner should be singled out. In addition, any such benefits would be limited and very difficult to keep track of. For example, every time a communications company overlashes its facilities, it is "benefiting" from the increased load capacity created by a new pole, but keeping track of every instance of overlashing associated with any pole that at some point may have been replaced would be a difficult task for very little benefit. And how would a value be assigned to that later benefit? In short, this proposal is ambiguous, impractical, of little benefit and should be rejected.

H. Make-Ready Cost Recovery is Not Used in Pole Attachment Rate Calculations, So There is no Double-Recovery

The April 21 NPRM asks whether utilities are including make-ready cost recovery in the pole attachment rate calculation and therefore double-recovering their make-ready charges.[18]

[17] *April 21 NPRM* at ¶ 36.

[18] *Id.* at ¶ 38.

Reimbursement for make-ready work, however, is treated by utilities as a Contribution in Aid of Construction ("CIAC") and credited back to the work order where the work was performed. This offsets the costs incurred by the utility to prepare the site for the communications attachment. Make-ready costs that are offset by CIAC payments are therefore not included in either the capital or expense accounts used to calculate formula rates.

This process is consistent with the Uniform System of Accounts. The Code of Federal Regulations, at 18 C.F.R. Part 101, under Electric Plant Instruction # 2 ("Electric Plant to Be Recorded at Cost"), Section D reads: "The electric plant accounts shall not include the cost or other value of electric plant contributed to the company. Contributions in the form of money or its equivalent toward the construction of electric plant shall be credited to accounts charged with the cost of such construction."[19]

The April 21 NPRM further seems to suggest that the make-ready expenses that utilities incur to accommodate their own facilities should never be included in any accounts used to calculate the pole attachment rental rate.[20] But this accounting suggestion ignores the fact that the utility has constructed the pole plant to provide its electric service. That was the reason for the pole plant's initial construction and that is the reason why the utility makes later capital expenditures to upgrade the plant and incurs operating costs to maintain the plant. These capital expenditures therefore belong in Account 364 (poles) and the operating expenses therefore belong in Account 593 (maintenance of overhead lines). To the extent that the utility is making capital expenditures that do not benefit the communications attachers, that amount is already deducted from the "net cost of a bare pole" portion of the rate calculation through use of the

[19] 18 C.F.R. Part 101, Electric Plant Instruction # 2 ("Electric Plant to Be Recorded at Cost"), Section D.

[20] *See April 21 NPRM* at ¶ 38.

appurtenances factor, which presumes that 15% of Account 364 is associated with cross-arms and other appurtenances that communications companies do not use.

I. Eliminating Capital Expenses from The Pole Attachment Rental Rate Makes No Regulatory Sense

The April 21 NPRM seeks comment on a proposal to lower the pole attachment rental rate calculation by removing any recovery of capital expenses associated with the pole plant.[21] This proposal makes no sense economically or from a regulatory perspective and should be rejected.

The pole attachment rental rate is designed to allow utility pole owners to recover from communications attachers some portion of the utility's annual costs of owning and maintaining the pole distribution system that the communications attachers make use of. These annual costs to own and maintain the pole distribution system include capital expenses in the form of annual depreciation, taxes and payments for debt and equity financing. The annual costs to own and maintain the pole distribution system also includes operating expenses in the form of administrative overhead and maintenance. These are the five carrying charges used in the pole attachment rate formula, and represent five charges necessary to own and maintain a pole distribution system.

The April 21 NPRM asks for comment regarding whether capital costs should be excluded from the pole attachment rental rate if communications company attachers do not "cause" the utility pole owner to incur much if any additional capital costs to accommodate their attachments.[22] The April 21 NPRM explains that communications attachers may have "caused"

[21] *April 21 NPRM* at ¶ 38.

[22] *April 21 NPRM* at ¶ 40.

some amount of increased pole operating expenses, but do not seem to have "caused" any additional capital expenses.[23]

Whether communications attachers "cause" capital expenditures is beside the point. The utility pole owner incurs capital costs to own and maintain the pole no matter who "caused" them. The pole owner also incurs administrative and maintenance carrying charges to own and maintain the pole plant no matter who "caused" them. No matter who "caused" any of the five carrying charges, they are all still expenses incurred by the pole owner to own and maintain the pole plant that communications attachers use, and so communications attachers should pay their fair share of those five annual costs.

Eliminating capital expenses from the pole attachment rental rate is like asking the owner of a rental building to set office rentals at an amount sufficient to cover only ongoing operating and maintenance costs, but not to cover the owner's other annual costs associated with taxes, depreciation or financing the building. Similarly, a car dealer leases cars out at a rate designed to recover the capital costs associated with the car during the term of the lease such as depreciation on the car, taxes paid on the car, and financing of the car. The pole attachment rental rate is similarly designed to allow the pole owner to recover a share of its depreciation, taxes and financing capital costs associated with the pole, in addition to recovering a share of ongoing administrative and maintenance expenses.

Utilities have a Constitutionally-protected property right in the poles they own. Allowing attachers to occupy poles without paying any share of the utility's capital costs to own and

[23] *Id*. *See also April 2011 Pole Attachment Order* at ¶¶ 144-145 and ¶ 149.

maintain those poles constitutes an unconstitutional taking of utility property without just compensation.[24]

The Commission previously determined that the communications attacher's fair share of annual administrative and maintenance costs is presumed to be 7.4%.[25] Similarly, the Commission determined 7.4% to be the communications attacher's fair share of the annual capital costs that the pole owner incurs to pay taxes on the plant, suffer depreciation of the plant, and pay for the debt and equity financing of the plant. These annual administrative and maintenance costs, and these annual taxes, depreciation and return costs, are incurred by the pole owner no matter whether attachers are on the pole or not. The 7.4% share paid by the communications company attachers is thus not designed to permit pole owners to recover costs the communications attachers "caused," but instead is designed as the communications company's fair share of the annual costs to own and maintain the pole distribution plant that the communications attachers use.

From a regulatory standpoint, the 7.4% share of annual pole costs reimburses the pole owner based on the benefits received by the communications attachers, not for the costs caused by the attachers.[26]

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[24] U.S. CONST. amend. V.

[25] 7.4% is the level of the Cable rate using all presumptions, and is the level of the new Telecom rate using all presumptions and the FCC's allocators created by the *April 2011 Pole Attachment Order*.

[26] Utility pole owners do in fact incur higher capital expenditures to construct pole plant to accommodate both communications facilities and electric facilities, since taller, more expensive poles are needed to accommodate both communications company attachers and electric utility attachers than would be required to accommodate the electric utility alone. To accommodate communications attachments on an electric utility pole, space is required not only for the communications attachments, but also for the 40-inch separation between communications company facilities and energized conductors, which the National Electrical Safety Code calls the "Communications Worker Safety Zone." In addition to the cost of a taller pole, additional capital costs are incurred for the guy wires, anchors, and other supporting equipment that supports taller utility poles. Additional capital costs are incurred for more expensive bucket truck fleets capable of supporting work on taller poles with a taller reach and more capable pole setting equipment.

J. Apart from The Annual Pole Rental Rate, Utilities Must Recover Their Out-of-Pocket Costs to Accommodate Attaching Entities

As explained above, the annual pole attachment rental rate is designed to compensate the pole owner for the communications company's use of its poles, and is calculated by determining the pole owner's annual costs of owning and maintaining the poles, and apportioning some fraction of those annual pole ownership costs to the communications company attachers.

These annual costs incurred by the pole owner to own and maintain its pole distribution plant, however, are separate from the considerable out-of-pocket costs that pole owners incur to accommodate pole attachment requests and monitor pole attachment activity. The costs that pole owners incur to accommodate pole attachment requests and monitor pole attachment activity includes considerable out-of-pocket expenses. These include make-ready expenses for which the pole owners are reimbursed. But they also include additional out-of-pocket expenses: (i) to draft pole attachment agreements; (ii) to process pole attachment applications; (iii) to oversee initial and subsequent attachment activity; (iv) to monitor, manage, coordinate and police attachment activity; (v) to administer pole attachment agreements; (vi) to bill for attachment activity; (vii) to enforce pole attachment agreements; (viii) to perform work that attachers fail to perform; and (ix) to perform tasks they would not have to perform if it were not for the presence of communications attachments.

These additional expenses take the form of additional personnel devoted solely to administering pole attachments, additional time devoted by other utility employees to address communications company attachment issues, additional outside legal and consultant expenses, additional expense for attachment tracking software, and additional truck roll expenses, among others.

None of these additional costs are incurred to own and maintain the pole distribution plant; they are additional costs that are incurred solely to accommodate communications company attachments to the pole plant.

These additional costs are not recovered through the annual pole attachment rental rate. To illustrate how these additional out-of-pocket costs are not recovered through the annual rental charge, take the example of an average-sized utility with 1.5 million poles, a net cost of a bare pole of $336 and annual carrying charges of 35%. Now assume that utility incurred $2,000,000 in additional annual salary, overhead, attachment-tracking software, legal, consulting, equipment, truck roll and other miscellaneous expenses that it would not have incurred but for having to accommodate attaching entities. If that $2,000,000 were added to the administrative expense in the pole attachment rate formula, the annual attachment rate would increase by just under one cent ($0.01). Even assuming the utility could charge that additional rate for 3 million attachments, it would recover only $30,000 (3,000,000 X $0.01 = $30,000) of its annual $2,000,000 expense. If it incurred only $1,000,000 in annual "but-for" expenses, the rate would not change at all, which means the annual pole attachment rental rate would not allow it to recover any portion of the $1,000,000 annual expense the utility incurs to administer communications company pole attachments.[27]

From a regulatory cost recovery standpoint, these annual expenses should of course be recovered by the electric utility pole owner. And recovery of these expenses will facilitate the attachment process. To the extent electric utilities need personnel to properly manage the pole attachment process, they should be allowed to recover the costs of hiring such personnel. Adequate staffing of pole attachment activities works to everyone' benefit.

[27] See pole attachment rate calculations, attached hereto at Exhibit E.

The *Coalition* therefore requests that the Commission clarify that utility pole owners may document and recover all of these administrative and other out-of-pocket costs separate from the annual pole attachment rental rate, including the costs associated with hiring personnel to manage this process.

Adequate electric utility cost recovery serves other important policy goals. Utilities are highly regulated entities which are given the task of providing safe, efficient, reliable electric service to their customers. A full 90-95% of their budgets are devoted to "duty to serve" obligations. This leaves little for discretionary work that should be used for system improvements and fixing aging infrastructure, integrating solar power and other renewable energy into the electric grid, and performing other socially-beneficial initiatives. To the extent available funds are drained to accommodate communications attachers without reimbursement, they are no longer available for these very high priority items.

It is also important to note that, as rate-regulated entities, all revenues received from attaching entities act as an offset to electric utility revenue requirements in their rate cases. As such, costs shifted from electric utilities to communications companies are paid for by electric utility ratepayers.

K. The Rate for Comingled Services (And All Other Attachments) Should Be the Rate Approved Last Year by the Tennessee Valley Authority

The April 21 NPRM asks what pole attachment rental rate should apply to attaching entities that offer "commingled services."[28]

[28] *April 21 NPRM* at ¶ 42.

The *Coalition* proposes that this rate for "commingled services" should be the rate established last year by the Tennessee Valley Authority ("TVA") for use by the numerous not-for-profit electric cooperatives and municipalities under its jurisdiction.

The TVA is "a corporate agency of the United States that provides electricity for business customers and local power distributors serving 9 million people in parts of seven southeastern states."[29] Last year, this corporate agency of the federal government approved a pole attachment rental rate that allows electric utility pole owners to recover more than 28% of their annual costs of owning and operating their pole distribution systems, which is considerably more than the 7.4% recoverable under the FCC's Cable rate.

A copy of TVA's pole attachment rate decision is attached hereto at Exhibit F. In that decision, TVA explains that its rate calculation is very similar to the FCC's rate calculations in calculating the annual costs of owning and maintaining pole plant. But instead of allocating only a small fraction of those costs to the communications attacher, TVA assigns a larger percentage based on the conclusion that the communications attacher is making use of, and responsible for, a much larger percentage of the pole than just costs than 7.4%.

TVA's conclusion is that if a utility pole owner allowed the communications attacher to pay for less than 28% of the pole owner's annual pole costs, then the utility pole owner would be subsidizing the communications attacher. As TVA explains: "[S]o that electric system assets and funds are not used in a manner that would result in the subsidization of non-electric activities, an LPC's [Local Power Company's] electric system must be appropriately

[29] Tennessee Valley Authority, *About TVA*, https://www.tva.gov/About-TVA (last visited June 13, 2017).

compensated for the use of electric system assets, including use by cable and telecommunication providers making or maintaining wireline attachments on an LPC's electric system poles."[30]

Not only should the TVA formula be used for attachments used to provide "commingled" services, it should be used for attachments by entities providing cable and telecommunications services as well.

L. Numerous Reasons Exist Why ILECs Should Not Receive a Lower Attachment Rate, and The *Coalition of Concerned Utilities* Strongly Opposes Any Effort to Grant This Unwarranted Subsidy

The April 21 NPRM includes proposals to make it easier for incumbent local exchange carriers ("ILECs") to obtain a lower attachment rate.[31] The *Coalition of Concerned Utilities* is strongly against this proposal, which would reward ILECs as they shirk their joint use pole owning responsibilities, provide them with an unfair advantage over their cable company and CLEC competitors, all at the expense of electric utilities and their rate payers.

1. Joint Use and Joint Ownership Arrangements Are Fundamentally Different from Pole Attachment Agreements

ILECs share the use of their poles with electric utilities -- and in turn electric utilities share the use of their poles with ILECs -- pursuant to well established joint use arrangements which were originally established more than 50-60 years ago.

ILECs do not simply attach to electric utility poles as do cable companies and competitive local exchange carriers ("CLECs"). Unlike cable companies and CLECs, which do not own their own distribution poles, ILECs do own and control millions of distribution poles

[30] TVA Determination on Regulation of Pole Attachments (adopted Feb. 11, 2016) attached at Exhibit F. The Resolution is marked "Proposed Board Resolution" and "TVA Restricted Information – Confidential and Business Sensitive," but is available publicly at: https://www.tva.gov/About-TVA/Guidelines-and-Reports ("Legal Reports").
[31] *April 21 NPRM* at ¶ 45.

across the country. Cable companies, CLECs -- *and electric utilities* -- rely on access to ILEC-owned poles to distribute their respective services to consumers.

Under a cable or CLEC pole attachment agreement, an attacher is dependent on the pole owner for access to its customers (since the attacher controls no poles of its own). The pole owner is not similarly dependent on the attacher.

In a joint use arrangement, however, both parties are dependent on the other for access to customers, because both parties are pole owners in their own right. Thus, a natural governor limits abuse in any joint use arrangement by either party. Since each party is dependent upon access to the other's poles, each is motivated to treat the other in a fair and nondiscriminatory manner on mutually acceptable terms and conditions.

This mutual dependency explains why joint use agreements contain vastly different terms and conditions than pole attachment agreements. Pursuant to most joint use agreements, each party is expected to set an equal number (or a defined percentage) of new poles, inspect and replace the poles when they become defective, and expend the necessary resources to maintain those poles. Because of this mutual dependency, joint use agreements, unlike pole attachment agreements, often require that the agreement stay in effect for all existing attachments, even after the term of the agreement has expired.

Unlike pole attachment agreements, joint use agreements often provide for a sharing of pole costs as part of a negotiated arrangement that contains a considerable number of ownership and maintenance responsibilities and benefits for each pole owning party.

Such commercial terms were established through arms-length negotiations, and this arrangement makes eminent sense (since each party is reliant on access to the other's poles) and is part of the shared access concept that has been at the heart of joint use contracts for decades.

Requiring both parties to share pole costs is mutually satisfactory because each party otherwise would be required to incur far greater costs by setting its own lines of duplicative poles. Moreover, without joint use the public would be burdened unnecessarily by dual poles on rights of way and private easements throughout the country.

An alternate ILEC and electric company arrangement is the "joint ownership" relationship, a contracted sharing of the full cost of the jointly owned and operated pole plant. Several of the *Coalition* members operate through joint ownership arrangements with their ILECs, and this joint ownership relationship usually involves even more coordination between the pole owners with respect to third party attachments and the maintenance and other activities associated with the poles.

The *Coalition* urges the Commission to take full account of the substantial differences between pole attachment and joint use (or joint ownership) arrangements before rendering any decision that would allow ILECs to receive a lower attachment rate.

2. ILECs Are Failing to Live Up to Their Joint Use Responsibilities

Over a number of years, as the wireline business has contracted, some ILEC joint use partners have gradually disassociated themselves from equitable participation in joint use, relying instead on the electric utility to set most of the poles, obtain necessary permits, provide emergency responses, restore pole lines after storms, police the system and ensure safe operation. During this period, some ILECs have largely refrained from making necessary and appropriate capital improvements to their pole lines. Moreover, many ILECs no longer own equipment necessary to perform work on taller poles, and have drastically reduced their pole inventory and quick-response resources. The result, of course, is that electric utilities have been forced by the ILECs to bear the overwhelming burden of joint use.

Over the past several years, ILECs often have reneged on their obligation to set new poles, forcing some electric utilities to set and replace up to 90% of all new poles. This gross imbalance has resulted in these electric utilities processing up to *nine times* (90% ÷ 10% = 9) as many applications for attachment, conducting up to *nine times* as much engineering work, and performing up to *nine times* as much make-ready work to accommodate ILEC attachments than ILECs are required to incur in accommodating electric utility attachments.

Over the years, the ILECs have dramatically scaled back their joint use programs, all to the detriment of electric utilities. They are not prepared to move quickly, or to respond to emergency situations. They have cut their internal resources supporting joint use and have reduced their joint use staffing. They are failing to maintain their existing pole plant, as their joint use agreements with the utilities require. They rely on electric utilities to visually inspect and provide vegetation management on ILEC pole lines, so that ILECs avoid the need to clear their owned pole lines. And they sometimes use electric utility employees as their default contractors, creating a backlog not only of the ILEC's work but of course of the electric utility's own work. Where electric utilities own a high percentage of joint use poles, that is primarily a result of actions – or non-actions – taken by the ILECs themselves, as they have in many cases simply refused to live up to prior commitments and chosen not to install new poles.

As discussed above, ILEC have also been slow to transfer their attachments to new facilities, creating a significant "double wood" problem (whereby two poles unnecessarily stand side-by-side to support all attaching entities), and causing delays for new attachers.

As explained below, ILECs enjoy significant advantages under joint use agreements than cable companies and CLECs have in third party pole attachment agreements, and for that reason should not be entitled to a lower rate. But since ILECs do not even do what they are currently

required to do under existing joint use agreements, that makes any lower rate even more unjust and unreasonable.

To encourage ILECs to do their fair share under existing joint use agreements and to perform the work they are supposed to perform, the Commission should clarify that electric utilities may file complaints at the FCC seeking enforcement of existing joint use agreements.

M. Reducing the ILEC Attachment Rate Would Give an Unfair Advantage to ILECs Over Other Attaching Entities, Particularly New Attachers

Due to their status as pole owners, ILECs receive a host of advantages that third party attachers like cable companies and CLECs do not enjoy. Thus, permitting ILECs to receive the same rate as cable companies and CLECs would be grossly unfair to the cable companies and CLECs (as well as to electric utilities). A brief, non-exclusive list of some of the unique benefits received by ILECs, which are not available to third party attachers in traditional pole attachment agreements, follows.

1. ILECs Incur Far Fewer Make-Ready Costs Than New Attachers

Most joint use and joint ownership agreements contain mechanisms under which the entity initially planning to construct a pole line will notify the other party and offer the opportunity to attach. If the other party seeks to attach, the pole line as originally designed and installed will be of sufficient height and strength to accommodate both parties. This historically has minimized the make-ready work that often occurs with cable and CLEC proposals to attach to already constructed poles.

Unlike CLECs and cable companies, therefore, ILEC are not charged for application fees, pole inspections and project engineering costs that subsequent attachers need to pay.

ILECs pay very little each year in make-ready expenses to accommodate their attachments on electric utility poles, while their CLEC and cable company competitors pay far

higher amounts. This is particularly true for new communications company attachers, which must attach to poles that already are occupied and often congested with earlier attacher facilities.

Because of the differences in make-ready expenses alone, granting ILECs the same low attachment rate that is paid by CLECs would give the ILECs a huge financial advantage over their CLEC and cable company competitors.

2. ILECs Often Install Attachments Without Waiting for Approval from The Electric Utility Pole Owner

Cable companies and CLECs are usually required to obtain advance approval from at least one pole owner (and usually two in joint ownership situations) before installing new attachments. ILECs, on the other hand, typically are not subject to that requirement. ILECs are not typically required to request make-ready engineering when attaching to poles owned by electric utilities, since they have their own engineers to perform appropriate calculations. They are therefore usually not required to wait for a survey and engineering work to be performed, a make-ready estimate to be prepared and paid for, or make-ready construction. Unlike cable companies and CLECs, their rights as pole owners entitle them to roll out their services to new customers with very little oversight by their fellow pole owners.

This provides ILECs with an enormous competitive advantage over cable company and CLEC competitors, since speed to market is a very large competitive concern. Unlike cable companies and CLECs, ILECs can skip waiting in line and go straight to market.

3. ILECs Often Avoid the Post Inspection Costs and Delays That Cable Companies and CLECs Can Experience

Since ILECs often need not obtain utility pole owner approval for their attachments, these additional costs and delays from post-attachment inspections do not apply to ILECs.

4. No Utility Oversight of ILEC Attachment Activity Means ILECs Can More Easily Overload Poles or Create Safety Violations, Increasing Make-Ready Expenses and Slowing Deployment Times for New Attachers

In their efforts to get to market as quickly and cheaply as possible, communications attachers are tempted to take shortcuts that compromise the safety and reliability of the pole distribution system, resulting in unauthorized attachments and safety violations that make it more difficult and expensive for subsequent communications attachers. The lack of oversight granted to ILECs makes it far easier for them to commit such violations.

5. Electric Utilities Often Obtain Rights-Of-Way for ILECs

In many joint use and joint ownership agreements, the party which owns or is the "custodian" of the pole often is required to obtain rights-of-way, highway permits and other authorizations on behalf of both parties to the joint use or joint ownership agreement. Since electric utilities are currently responsible for setting most new poles, electric utilities are performing this task on behalf of ILECs far more than ILECs do so for electric utilities. Cable companies and CLECs are required to get their own.

6. ILEC Attachments Often Are Entitled to Occupy a Specified Number of Feet on The Pole, Ensuring There Is Room for ILEC Facilities

Cable companies and CLECs generally rent only the one-foot of space on the pole that they currently need. Joint use and joint ownership agreements often entitle ILECs to a certain number of feet on the pole, regardless of whether they have a current need for that space. With the extra space available under joint use, ILECs can expand their facilities with greater ease, plan for emergencies and future needs, and have less need to incur the cost of changing out a pole to meet their requirements.

7. ILEC Facilities Occupy a Better Location on The Poles

Because they are provided the option to attach before other attaching entities, ILECs are allowed to select the preferred attachment height on the pole, which typically is the lowest allowable communications space on the pole. This allows for easiest access to the pole.

8. ILECs Often Avoid the Costs of Relocating and Rearranging Their Attachments

Pursuant to some joint use and joint ownership agreements, ILECs are not required to pay for the relocation of electric company facilities when poles must be rearranged to accommodate the ILECs attachments.[32] In contrast, third party pole attachment agreements with cable companies and CLECs require the cable company or CLEC to pay to relocate both the ILEC and electric company.

9. ILECs Sometimes Collect Rent for Attachments Made on Electric Utility-Owned Poles

Joint use and joint ownership agreements sometimes give the ILEC pole owner control over the communications space on the pole, allowing the ILEC to collect pole attachment rental fees from their competitors who access that communications space. This additional revenue, of course, works to the benefit of the ILEC at the expense of its CLEC and cable company competitors.

10. ILECs Have Other Rights on Joint Ownership Poles

ILEC joint owners often have the same rights as the electric utility on jointly-owned poles. They execute agreements with the attachers, they approve and deny access, they charge rental fees, they have a say in where the pole is placed, and they don't have to notify the utility when adding attachments to a pole. The ILEC does not pay an annual fee for attachments, but

[32] In these agreements, electric companies do not need to pay for the relocation of ILEC facilities either, but the costs associated with relocating electric facilities is much greater.

does pay for ownership and maintenance based on its ownership percentage in the pole. In turn, the electric utility shares in many of the pole expenses incurred by the ILEC. The ILEC also owns some of its own poles on a 100% basis, and may install its own poles as needed. The ILEC is notified of all pole work on the electric utility's system and provided the opportunity to take joint ownership; whereas attachers are only notified if already attached to a pole on which work is being performed.

11. Pole Replacements Can Be Less Expensive for ILECs

Some joint use agreements specify that if the electric utility replaces one of its poles due to an ILEC attachment, the ILEC need only pay for plant loss, so that if the pole is fully depreciated then the ILEC would pay nothing for the pole replacement.

12. Billing for ILEC-Related Work Is Sometimes Based Upon Outdated and Relatively Inexpensive Cost Schedule

Many joint use agreements specify the costs that each pole owner will charge the other for certain tasks. Since many of these agreements are very old, the charges specified in these schedules are low relative to current charges, and since ILECs have ceded most joint use responsibilities to electric utilities, they benefit disproportionately from these outdated charges. CLECs and cable companies, in contrast, pay current rates.

N. Reducing ILEC Attachment Rates is Unwarranted When Electric Utilities Do Not Have Bargaining Leverage, And There Are Many Reasons Why Electric Utilities Do Not Have Bargaining Leverage

The April 21 NPRM asks under what circumstances ILECs should not receive a lower rate.[33] The *Coalition* believes that ILECs never should be entitled to a lower rate because of the competitive advantages enumerated above, but also because electric utilities do not have bargaining leverage over ILECs if ILECs own poles to which electric utilities must attach.

[33] *April 21 NPRM* at ¶ 45.

1. Simply Owning More Poles Does Not Give Electric Utilities Bargaining Leverage

The April 2011 Pole Attachment Order suggested that a disparity in pole ownership percentages between ILEC and electric utility joint use partners might be evidence that the electric utility has bargaining leverage over the ILEC in joint use contract negotiations, allowing the electric utility pole owner to charge more than a reasonable rate for ILECs to attach to electric utility poles.[34] As explained below, however, a difference in pole ownership percentages often does not result in any bargaining leverage at all.

The Commission's determination that unequal pole ownership may in some circumstances result in bargaining leverage is based on critical assumptions that (i) pole owners have a legal right to remove the other's facilities, (ii) they have a legal right to construct alternate facilities, and (iii) it makes economic sense to do so. It is often the case that none of those situations exist.

For example, the "evergreen" clauses in certain joint use agreements allow existing attachments to remain on poles even if the joint use agreement terminates.[35] Where these "evergreen" clauses exist, an ILEC has complete legal assurance that its electric utility joint use partner cannot remove the ILEC's attachments from any of the poles owned by the electric utility. If an ILEC's attachments cannot legally be removed from the electric utility's poles, there is no basis for the Commission to conclude that the electric utility has bargaining leverage over the ILEC.

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[34] *April 2011 Pole Attachment Order* at ¶ 215.

[35] "[T]his agreement may be terminated, so far as concerns further granting of joint use by either party, …upon sixty (60) days notice in writing to the other party, … provided further that notwithstanding such termination this agreement shall remain in full force and effect with respect to all poles jointly used by the parties at the time of such termination."

Evergreen clauses aside, many (if not all) state public service commissions and other state and local officials likely would not allow an electric utility to construct a duplicate pole line or to relocate its electric facilities underground, so the electric utility likely has no legal alternative but to attach to the ILEC's poles. State public service commissions and other state and local officials likely would not tolerate such wasteful expenditures of resources simply because the electric utility and its ILEC joint use partner could not agree to new terms and conditions of a joint use agreement.

Not only do electric utilities operating under evergreen clauses lack the legal right to remove ILEC attachments, and not only would state public service commissions and other authorities not allow electric utilities to construct a duplicate pole line or redundant underground facilities, the construction of duplicate pole lines or underground facilities would be prohibitively expensive in any event. From a cost perspective, even assuming the best-case scenario, that every ILEC pole were in a rural area, that they all contain simple 15 kV, single-phase facilities, and that there was room right next to them to construct an adjacent duplicate pole line, FirstEnergy estimates it would still cost the utility $60,258.90 /mile just to remove and relocate its facilities from an ILEC's poles. Without these unrealistic best-case assumptions, that figure would likely be considerably higher than $100,000 per mile.[36]

Assuming an annual carrying charge of 30%, it would cost FirstEnergy more than $18,000 per mile per year thereafter to own and maintain those facilities. This compares to the average $963.15 per mile per year total that FirstEnergy pays in annual rental fees to attach to an ILEC's poles under existing agreements.[37]

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[36] *See* Declaration of Randall J. Coleman, attached at Exhibit D to FirstEnergy Corporation's "Response to Pole Attachment Complaint," *In the Matter of Commonwealth Tel. Co. LLC v. Metropolitan Edison Company*, File No. EB-14-MD-008, Docket No. 218 (Enf. Bur. Jul. 11, 2014) ("*FirstEnergy Response*"), attached hereto at Exhibit G.

[37] *Id.*

From an economic perspective, it makes no sense whatsoever for an electric utility to incur an initial cost of $60,258.90 per mile and an annual cost thereafter of $18,000 per mile to create duplicate pole facilities when the alternative is to continue attaching to an existing pole line at a per mile cost of $963.15 per year.

Without any legal or economic alternative to attaching to an ILEC's poles, electric utilities are "stuck" with the ILEC, just as the ILEC may be "stuck" with the electric utility. Neither has bargaining power over the other enabling it to dictate rates, terms or conditions. Attached at Exhibit H is the declaration of Bridger Mitchell, a prominent telecommunications economist, that confirms that under these circumstances a utility does not have bargaining power.[38]

Considering this economic analysis, the Commission should expand the instances in which existing joint use agreements must be honored to include: (i) any joint use agreement with an evergreen clause; and (ii) any joint use arrangement where there is no practical alternative for the electric utility to get off the telephone company's poles.

In addition, some joint use and joint ownership agreements are designed in a way that no rental payments are exchanged. The Commission should honor these types of joint use/joint ownership agreements too.

O. If an ILEC Is Deemed Entitled to A Lower Rate, All Other Provisions of the Agreement Should Be Renegotiated at The Same Time

A joint use or joint ownership agreement between two pole owners has interrelated rates, terms and conditions that create a mutual dependency necessary to ensure a safe, reliable and

[38] Declaration of Bridger M. Mitchell, attached at Exhibit F to the *FirstEnergy Response*, and attached hereto at Exhibit H.

efficient pole distribution system. It would be unfair for just one portion of that agreement to be revised in favor of an ILEC without examining the remaining portions of the agreement.

As a result, the *Coalition* proposes that if an ILEC somehow is deemed to be entitled to a lower attachment rate, the entire agreement should be renegotiated to account for that lower rate. This would allow the electric utility and ILEC to resolve any number of difficulties with the existing agreement, including decisions on how to apportion the rights and responsibilities of the joint use of each other's poles. This would allow the parties to negotiate and resolve issues about applications, make-ready work, pole inspections, vegetation management, reimbursement for other costs, and other issues. In fact, it might be the parties decide joint use is impractical and not working, so that an arrangement could be made for the electric utility to be the sole pole owner. That would place ILECs truly in the same position as their cable company and CLEC competitors, which do not own poles.

P. The Commission Should Reject Proposals to Gather and Post Information About Utility Pole Locations, Pole Conditions, Existing Attachers, and Available Space for New Attachments

In seeking to improve information regarding the location and availability of poles, ducts, conduits, and rights-of-way, the Commission asks whether it would be helpful to maintain an open database regarding pole locations, pole conditions, existing attachers, and space available for new attachments.[39]

As explained below, the Commission lacks statutory authority to impose such a requirement. Even if it did not, just establishing and maintaining such a database would require hugely expensive pole surveys and herculean efforts. And this huge out-of-pocket expense

[39] *April 21 NPRM* at ¶ 27.

should be paid for somehow by the few communications attachers who claim to need it. Most importantly, the database itself would be almost completely useless to attaching entities.

For these reasons, explained in more detail below, the Commission should reject this proposal to require the collection of such data.

1. The FCC Has No Jurisdiction to Require Pole Owners to Collect This Information

Neither Section 224 nor any other provision of the Communications Act grants the Commission authority to require electric utilities to collect and maintain data about their pole distribution systems that they are not already collecting for themselves. Section 224 requires utilities to provide access to cable companies and CLECs and permits the Commission to adjudicate pole attachments disputes, but it does not authorize the Commission to create and impose substantial new administrative functions that electric utility pole owners must perform for the sole benefit of attaching entities.

2. Information Regarding Electric Utility Pole and Conduit Distribution Systems Is Highly Confidential

The Commission should appreciate that electric utilities already are deeply concerned with maintaining the security of their distribution systems without posting key information about their systems on some electronic database.

In today's environment, threats of cyber-attack and terrorism are a constant concern. A would-be terrorist, for example, could use the database to target a pole line in a remote location that is loaded with electrical circuits and telecommunications attachments and cause a serious disruption in electric and telephone services. Disclosing the location of attachments made near sensitive facilities, like airports and government buildings, also is a serious concern.

Information about pole and conduit locations is Critical Energy Infrastructure Information. Utilities are required to keep it from the public domain.

There are competitive concerns, as well. Disclosing the location of attachments on utility pole distribution systems would reveal to competitors proprietary information about where communications companies are deploying their services.

Electric utilities currently have installed internal safeguards to limit the distribution of utility-specific information. Even personnel within utilities often are prevented from accessing certain confidential information regarding the system. To mandate that utilities provide the public at large with maps of or other information about utility distribution system would be irresponsible and dangerous.

Consistent with current FCC policy, many utility pole owners already provide maps on a confidential basis to attaching entities who request and pay for this information. There is no need to change this system.

3. Existing Utility Records Do Not Contain Information About Available Pole Space

It is difficult to understand how a database containing information about existing attachments on poles would be of use to prospective attachers. If the goal is to determine whether space is available on existing poles to accommodate new attachments, the existing records of electric utilities currently do not include such information.

Many electric utilities do not retain records on the attachment activities of their ILEC joint use or joint owner partner, and therefore cannot say how many attachments the ILEC has or where those attachments are located. As for third party attachments, many utilities only record what company is attached, not the position of the attachment on the pole.

Even with respect to electric utility attachments, many utility pole owners simply record the facilities that were attached, not how or precisely where they were attached.

For all these reasons, there is no way for electric utility poles owners to determine available pole space using existing pole records. It would need to be created *de novo*.

4. Conducting A Survey to Determine Available Pole Space Would Be Extremely Expensive and Time Consuming

Collecting information sufficient to determine whether space is available on poles sufficient to accommodate new communications attachments would require a complete field audit of all utility poles system-wide, including the physical measurement of the location and distance between each of the facilities on each pole.

After the field audit, all the data collected in the field would need to be manually evaluated based on the applicable standards, codes and field conditions to determine the "available space" of that particular pole. Attachments that are not in compliance with applicable standards would need to be corrected first or otherwise accounted for before the "available space" on those poles could be determined.

To provide a rough estimate of the enormity of this task, imagine a utility that owns 1,000,000 poles. A survey rate of 20,000 poles per month would be a fast pace for a company of that size, but even at such a rate it would take more than four years to complete this initial survey, using a dozen or more data collectors working full time and a sizable back-office team that must merge the data into the utility's internal records and resolve discrepancies. Because any survey should be coordinated with joint pole owners and the major attachers, the process would become even more complex and the production rate may be decreased substantially.

The cost of conducting such an audit might be between $20-$40/ pole. At an average of $30 per pole, the four-year survey of the utility's 1,000,000 poles would cost $30,000,000. This huge dollar amount does not even count the back-office resources that the utility would be

required to tie-up full time for that four-year period. At the end of this four-year survey, most of the data collected already would be dated.

5. Maintaining Such a Database Would Also Be Extremely Expensive and Time Consuming

Even if it were possible to assume that the initial survey provided current and usable information regarding the available pole space, the maintenance of that database would be impossible without continuous additional surveys.

The amount of available space on electric utility poles changes constantly. ILEC and third party attachers often add to or otherwise modify their attachments without informing the utility pole owner. Utilities also are unable to record the countless unauthorized attachments routinely placed on their poles outside of the required application process. Following storms and other emergencies, poles themselves are often replaced (sometimes with taller poles), requiring the reattachment of facilities at perhaps different locations.

Even if all attaching entities began reporting accurately all their new attachments and modifications, asset management systems would need to be adjusted to allow for these new data fields. Existing pole design, licensing practices and field assessment procedures would need to be revised to require this kind of information to be recorded and maintained. Additional business system modifications would be required to allow for an electronic interface.

Maintaining a database of available pole space is not practical, possible or helpful. The initial database would be immediately outdated and of no use in determining locations for future attachments. The only way to maintain the accuracy of such data would be to conduct continuous audits of pole plant attachments, and these continuing audits would be as expensive and time-consuming as the initial audits.

6. A Database Containing Available Pole Space Would Be of No Benefit to Electric Utility Pole Owners

Information regarding available pole space on electric utility poles is not needed by any *Coalition* member or any other electric utility for the safe and reliable distribution of electric service. Electric utilities already know where their electric circuits are located. Knowing what height on the pole that communications lines are attached to is of no benefit to the electric utility.

Collecting this new information could be harmful to electric utilities, because it will create data integrity issues, requiring ongoing and costly reconciliations of all information systems in an effort to assure that they match.

Because this information is of no use to electric utilities, no *Coalition* member currently collects it. If it is required by the Commission, attachers should pay all expenses related to creating, maintaining and updating it.

7. A Database Containing Available Pole Space Would Be of Little Benefit to Prospective Attachers Either

Even if the availability of space on poles could be collected and maintained, that information alone is insufficient to determine whether a pole can accommodate additional attachments.

In addition to calculating required NESC clearances, the size and weight of any proposed attachments also must be determined and compared to the existing load. A pole loading analysis may need to be performed.

Field survey work would still be required to review the poles and the routes of the cable installation, to verify existing attachments and to determine whether anything has changed that would affect the attachments, such as elevation changes, the installation of driveways, road work in the right-of-way, new ditches, etc., before installation. Easement restrictions would also need to be evaluated.

In short, distribution poles must be analyzed on a case-by-case basis, and decisions regarding where attachments can be placed cannot be made based simply on the "available space" that may be identified in a utility's database.

8. The Existing Process for Determining Access to Poles Already Works

It is also unclear why the Commission feels the existing process does not work. Utilities currently provide attachers with standards that indicate when a pole can and cannot receive attachments. Using these standards, attachers can easily determine with a field visit and engineering work whether a pole is available for attachment.

All this information is already available to any entity wishing to attach to a pole. It can be obtained by the simple expedient of looking at the pole. It is also unclear how an attaching entity could plan a build anyway without surveying the route and attachment locations in the field. A utility would never do that.

It simply makes more sense for attachers to go out into the field and gather this information they way they always have. As with so much of this make-ready process, the Commission should seek to maximize the responsibility of the applicant seeking the attachment and minimize its dependence on others. The attacher itself is the entity most keenly interested in obtaining access and should be required to do everything within its power to speed the process.

9. Requiring Utilities to Maintain Databases Will Result in Disputes at The Commission Regarding the Sufficiency of Each Database

Finally, there is no reason to believe that a database purporting to show available space will be accepted without question by attachers. No such database will go unchallenged. Requiring utilities to maintain databases will generate countless disputes at the Commission regarding the sufficiency of each database and perhaps of each data entry.

IV. CONCLUSION

WHEREFORE, THE PREMISES CONSIDERED, the *Coalition of Concerned Utilities* urges the Commission to act in a manner consistent with the views expressed herein.

Respectfully submitted,

COALITION OF CONCERNED UTILITIES

Arizona Public Service
Consumers Energy
Eversource
Exelon Corporation
FirstEnergy
Hawaiian Electric
Kansas City Power and Light
NorthWestern Energy
Portland General Electric
Puget Sound Energy
South Carolina Electric & Gas
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June 15, 2017

EXHIBIT A


DEAD END
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RESERVE ST
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Imagery Date: 10/2015 46°51'33.8


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Imagery Date: 10/2015 46°51'

EXHIBIT B


Pole C22

EXHIBIT C

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Implementation of Section 224 of the Act	)	**WC Docket No. 07-245**
A National Broadband Plan for our Future	)	**GN Docket No. 09-51**

TO: THE COMMISSION

PETITION FOR RECONSIDERATION OF THE COALITION OF CONCERNED UTILITIES

Consumers Energy
Detroit Edison
FirstEnergy Corp.
Hawaiian Electric Co.
NSTAR
Pepco Holdings, Inc.

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Counsel to Coalition of Concerned Utilities

Dated: June 8, 2011

SUMMARY

The *Coalition of Concerned Utilities* serves more than 17.5 million electric customers in 10 states and the District of Columbia and owns, in whole or in part, approximately 8.1 million electric distribution poles. We urge the Commission to reconsider its April 7 Order in the hope that specific aspects will be made more workable for the electric utility industry. Absent reconsideration, many utilities will be unable as a practical matter to comply with the Commission's new pole attachment requirements without serious adverse impact to the safety and reliability of electric service provided to the public. Numerous complaints likely will be filed with the Commission.

Make-Ready Deadlines. The new and unprecedented make-ready deadlines are unworkable and unwise and should be fundamentally reconsidered by the Commission or at a minimum revised to better recognize utility operational constraints. To bring the make-ready deadlines more into line with the reality of electric utility operations, the *Coalition* proposes that the lower limit on the number of attachment requests subject to the deadlines be reduced *from 300 to 100 poles*, and the upper limit reduced *from 3,000 to 500 poles*. Both limits should apply to attachment requests made by *all* attaching entities per month, not just by a single attaching entity. The deadlines should not apply to the extent that make-ready work would require any attacher that is not a cable television system or telecommunications service provider (*e.g.*, municipality) to move its facilities, or to pole replacements or the installation of new poles necessary to accommodate additional attachments. The Commission should expand the grounds to "stop the clock" and toll the make-ready deadlines (*e.g.*, seasonal storms, government permits, private property easements, preexisting safety violations) and should delay the implementation of

the deadlines established in the April 7 Order *by one hundred and eighty (180) days* and thereafter provide for a graduated phase-in of the make-ready deadlines.

Safety Issues. The Commission should allow utility pole owners to impose penalties for safety violations in the amount of *$200 per violation*, consistent with Oregon's rules. Utilities should be free to restrict future use of boxing and extension arms by imposing a policy applicable to all attaching entities going forward, regardless of whether the utility has chosen to do so in the past. Utilities also should be entitled to disallow any wireless pole top attachment by a communications attacher to the extent a utility disallows *any* wireless antenna of *any* type, including its own, to be installed on pole tops.

Attacher Rearrangement Issues. A number of related decisions in the April 7 Order should be reconsidered in light of the real world of electric utility operations (*e.g.*, use of electronic notification systems, reimbursement for costs incurred by pole owners in moving attachments, limitations on liability for mandatory relocation of existing attachments).

Joint Pole Owner Issues. Both owners of a jointly-owned pole – not just one – should be permitted to require separate permitting and payment processes.

Refunds. To avoid an unexpected and unjust result, refunds should not be allowed prior to the effective date of the Commission's April 7 Order.

All of the *Coalition's* members, like other electric utilities across the country, are responsible for the safe and efficient delivery of electric services to their consumers. None is in a position to sacrifice electric system safety and reliability as a cost of making its distribution poles available on an expedited basis for use by communications attachers. The *Coalition* urges the Commission to reconsider its rules accordingly.

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FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Implementation of Section 224 of the Act	)	WC Docket No. 07-245
A National Broadband Plan for our Future	)	GN Docket No. 09-51

TO: THE COMMISSION

PETITION FOR RECONSIDERATION
OF THE COALITION FOR CONCERNED UTILITIES

Consumers Energy, Detroit Edison, FirstEnergy Corp., Hawaiian Electric Co., NSTAR, and Pepco Holdings, Inc. (collectively, "the *Coalition of Concerned Utilities*" or *"Coalition"*), by their attorneys and pursuant to Section 1.429 of the Rules of the Federal Communications Commission ("FCC" or "Commission"),[1] respectfully petition the Commission for reconsideration of its Order released in this proceeding on April 7, 2011 ("April 7 Order").[2]

Collectively, the *Coalition* serves more than 17.5 million electric customers in 10 states and the District of Columbia and owns, in whole or in part, approximately 8.1 million electric distribution poles. To accommodate in a realistic way both the attachers' requirements and those of electric systems, the *Coalition* urges the Commission to reconsider several aspects of its April 7 Order so that specific aspects will be made more workable in the real world of the electric utility industry. The *Coalition's* request is based not on an opposition to broadband

[1] 47 C.F.R. §1.429.

[2] *Report and Order and Order on Reconsideration*, FCC 11-50; Implementation of Section 224 of the Act (WC Docket No. 07-245); A National Broadband Plan for Our Future (GN Docket No. 09-51), April 7, 2011. The Order was published in the Federal Register on May 9, 2011, 76 Fed. Reg. 26620.

deployment, but on serious concerns regarding the impact of the Commission's decisions on the day-to-day operations of electric utility systems across the country. Absent reconsideration, however, the *Coalition* is concerned that many utilities will be unable as a practical matter to comply with the Commission's new pole attachment requirements without serious adverse impact to the safety and reliability of electric service provided to the public and a corresponding flood of complaints to the Commission.

I. BACKGROUND ON *COALITION* MEMBERS

The *Coalition of Concerned Utilities* is composed of a diverse group of electric utility companies in terms of size, attacher relationships and operational characteristics. The following is a brief description of the *Coalition* members filing in this proceeding:

Consumers Energy provides electric and natural gas service to more than six million people in Michigan's lower peninsula. Consumers Energy owns, in whole or in part, approximately 1,500,000 utility poles.

Detroit Edison provides electric service to 2.1 million customers in southeastern Michigan. Detroit Edison owns, in whole or in part, one million utility poles.

FirstEnergy Corp. provides electric service to six million customers throughout 67,000 square miles of Ohio, Pennsylvania, West Virginia, Maryland, Virginia and New Jersey. FirstEnergy provides this service to its customers through ten electric utility operating companies.[3] FirstEnergy owns, in whole or in part, approximately 3,900,000 utility poles.

Hawaiian Electric Co., and its subsidiaries, Maui Electric Company, Ltd, and Hawaii Electric Light Company, Inc., provide electricity to approximately 440,000 customers on the

[3] FirstEnergy's operating companies are Jersey Central Power and Light, Metropolitan Edison, Ohio Edison, Pennsylvania Electric Company, Pennsylvania Power Company, Cleveland Electric Illuminating Company, Toledo Edison, Monongahela Power Company, The Potomac Edison Company and West Penn Power Company.

islands of O`ahu, Maui, Hawai`i Island, Lana`i and Moloka`i. Hawaiian Electric owns, in whole or in part, approximately 180,000 electric distribution poles.

NSTAR provides electricity to approximately 1.1 million customers in 81 communities throughout Massachusetts. NSTAR owns, in whole or in part, 388,000 electric distribution poles.

Pepco Holdings, Inc., and its subsidiaries, Pepco, Delmarva Power, and Atlantic City Electric, provide electricity to approximately 1.9 million customers in Delaware, New Jersey, Washington, D.C. and Maryland. Pepco owns, in whole or in part, 700,000 electric distribution poles.

All of these *Coalition* members are responsible for the safe and efficient delivery of electric services to their consumers. None is in a position to sacrifice electric system safety and reliability as a cost of making its distribution poles available on an expedited basis for use by communications attachers.

II. THE COMMISSION SHOULD RECONSIDER THE MAKE-READY DEADLINES

For the first time, the Commission's April 7 Order established a series of stringent deadlines to govern each step of the make-ready process, each of which represents a significant, new burden for electric utilities in accommodating requests for attachments.

The following deadlines were created for each stage of the process:

Stage 1: Survey: 45 days (with an additional 15 days for "large orders")
Stage 2: Estimate: Within 14 days of receiving the results of the engineering survey
Stage 3: Attacher Acceptance: Up to 14 days for the attacher to approve the estimate and provide payment
Stage 4: Make-Ready: 60 days (or 105 days in the case of "large orders"); for wireless attachments above the communications space, 90 days (or 135 days in the case of "large orders"), with

> 15 additional days after the make-ready period to complete make-ready work.[4]

As the *Coalition* explained in its Comments, Reply Comments and ex parte submissions in this proceeding, imposing dramatic new make-ready deadlines of this nature and scope upon electric utilities across the country makes little sense in the real world of electric utilities.[5] For all intents and purposes, they are unworkable.[6]

Should the Commission nevertheless proceed with imposing these types of make-ready deadlines, they at least should be revised as explained below to better recognize utility operational constraints and to reduce the expected burden on utilities as well as the Commission that will result from an inevitable flood of pole attachment access complaints.

A. Reduce the Number of Poles Subject to Deadlines

The April 7 Order sets an unworkable and unreasonably high number for poles subject to the deadline process:

> We apply the timeline to orders up to the lesser of 0.5 percent of the utility's total poles within a state or 300 poles within a state during any 30-day period. For larger orders—up to the lesser of 5 percent of a utility's total poles in a state or 3,000 poles within a

[4] April 7 Order, at ¶ 22.

[5] *See, e.g.*, Comments of the Coalition of Concerned Utilities (filed in this proceeding on August 16, 2010), at 11 (hereafter, "August 16 Comments") and Reply Comments of the Coalition of Concerned Utilities (filed in this proceeding on October 4, 2010), at 3 (hereafter "October 4 Reply Comments").

[6] The Commission's deadlines will insert the agency itself into the daily decision-making processes of electric utilities across the country without fully considering the many differences among electric utility pole owners, the even greater differences between electric utility pole owners and ILEC pole owners, and the numerous, justifiable causes of delay not recognized as "authorized exceptions" in the make-ready process that vary from utility to utility and pole attachment request to request. Imposing artificial, inflexible deadlines makes little sense in the operational world of electric utilities and could have chaotic and catastrophic consequences. There are too many constraints outside of electric utility control, such as the volume of make-ready requests, weather conditions, service interruptions, local and state requirements, private property issues, environmental regulations, road construction and road permitting, unauthorized attachments and safety violations, the unresponsiveness of existing attachers, and the many delays caused by the new attacher itself, to hold utilities liable for compliance in virtually all cases. Hard and fast rules applicable across-the-board to all utilities ignore the unique operational characteristics of individual systems, not to mention the interests of State Public Utility Commissions and local regulators, many of which have imposed specific and potentially inconsistent requirements of their own to ensure safe and reliable utility operations of electric utility distribution systems within their respective jurisdictions. For all of these reasons, the Commission's make-ready deadlines are unworkable and unwise and should be fundamentally reconsidered by the Commission.

> state—we add 15 days to the timeline's survey period and 45 days to the timeline's make-ready period, for a total of 60 days. For in-state orders greater than 3,000 poles, we require parties to negotiate in good faith regarding the timeframe for completing the job.[7]

The Commission suggests that these numbers are manageable by stating that "an attacher always has the ability to submit requests of up to 3,000 poles in any 30-day period, so an attacher could start a 9,000 pole order within a single state through the timeline over three successive months."[8]

These numbers, however, are far from manageable from the electric utility perspective. To put such a huge number of pole attachment requests in context, for the last three years NSTAR has processed applications for communications companies to attach to 4-5,000 poles per year, which averages approximately 325-425 per month. For the past four years, Consumers Energy has processed applications to attach to 6,000 poles per year, or 500/month. Detroit Edison issues permits every year to attach to 12,000-15,000 poles, or 1000-1250/month.[9] A 3,000-pole request in a given month would be 2.4 times, six times, and seven times the normal monthly workload for Detroit Edison, Consumers Energy and NSTAR, respectively.[10] A 9,000-pole request over three months would double NSTAR's workload for the entire year, exceed Consumers Energy's annual workload by 50% and constitute as much as 75% of Detroit Edison's annual workload.

Further, there is no "cap" on the number of sequential requests that a single attacher may submit every 30 days, nor is there any limit on the number of requests that may be submitted

[7] April 7 Order, at ¶ 63.
[8] *Id*.
[9] Five percent of the poles owned by NSTAR, Consumers Energy and Detroit Edison is 19,400 poles, 75,000 poles and 50,000 poles, respectively.
[10] Looked at another way, considering that a line of approximately 20 poles stretches one mile, a 3,000-pole request would require survey work and make-ready construction to be performed on *150 miles of pole line*, which is an enormous undertaking for every electric utility pole owner in the country.

collectively by the attacher community in any given period. As a result, multiple attachers could bombard a single utility with multiple 3,000 pole requests every month, each of which would be subject to the Commission's deadlines.

Every utility is operated differently, but no utility can staff adequately for an unknown volume of make-ready work.[11] Utilities do not have unlimited resources sitting idle while waiting for the next pole attachment application to arrive. Instead, utility crews and contractors are constantly at work maintaining existing and new lines, moving from place to place, responding to emergencies, balancing conflicting demands on their time and resources and performing make-ready and other assignments as planned and coordinated in advance. All of this extra work performed for third party attachers pursuant to Commission fiat is in addition to the normal electric work that utility personnel must perform for their own consumers. Deadlines associated with such enormous make-ready requests very easily could prevent the utility from performing its own electric work, subjecting the utility to potentially stiff penalties from its state public utility commission, not to mention complaints of inadequate service by electric utility consumers. A flood of FCC complaints also likely would result.

To bring the make-ready deadlines more in line with the reality of electric utility operations, the *Coalition* proposes that the lower limit on the number of attachment requests subject to the deadlines be reduced *from 300 to 100 poles*, and the upper limit be reduced *from 3,000 to 500 poles*. These limits should be on the number of poles for which attachment requests may be made by *all* attaching entities per month, not just by a single attaching entity. These numbers would create a much more manageable workflow for utilities providing core

[11] Detroit Edison, for example, received a 9,000-pole job last year as a result of Federal stimulus funding. The project was located in a rural region and Detroit Edison had to find five full-time equivalent personnel to relocate to that region for six months to get the job done. The utility searched its entire workforce to locate qualified personnel, working through the International Brotherhood of Electric Workers union. This process of simply locating qualified personnel took two months.

electric services to consumers throughout the country while preserving the right of attachers to expect reasonably prompt responses to their make-ready requests.[12]

B. Exclude Poles Requiring the Rearrangement of Non-Section 224 Attachers From the Deadlines

As the Commission's make-ready deadlines acknowledge, the accommodation of new attachments often requires other attachers on the pole to move their facilities before the new attachments may be affixed to the pole. The conduct of these other attachers, however, is far beyond the pole owner's control.[13]

While the problem exists with respect to all existing attachers, it is particularly difficult to coordinate with attachers that have *no* pole attachment workforce and limited resources, such as fire departments, highway departments (*e.g.*, traffic control devices), school districts, police

[12] Other states have considered these issues and established more reasonable make-ready deadlines than those promulgated by the Commission. Vermont, for example, provides for a sliding scale that begins with at least 180 days to complete the make-ready estimate and perform make-ready work, "unless otherwise agreed by the various parties, and except for extraordinary circumstances and reasons beyond the Pole-Owner's control." Vermont Public Service Board, Rules 3.708 (B)(2), (C) and (E). In Oregon, if make-ready work requires more than 45 days to complete or if there are more than 50 poles in an application, the parties must negotiate a mutually acceptable longer period to complete the work. See Oregon Administrative Rules §§ 860-028-0020(32), 860-028-0100(5), (7). In Utah, pole owners must provide make-ready estimates for applications of 20 poles or less within 45 days, and must complete make-ready work within 120 days after the initial payment of the make-ready estimate. For applications greater than 20 poles but less than 300 (or .5% of the owner's poles in Utah, whichever is lower), the make-ready estimate is due within 60 days and construction must be completed 120 days after payment. For applications greater than 300 (or .5%) but less than 3,000 (or 5%, whichever is lower), the make-ready estimate is due in 90 days and the time for construction is extended to 180 days after payment. For applications greater than that, the timeframes are negotiated. All applications within a single month are counted as a single application, and the pole owner has the flexibility of justifying longer timelines based on anticipated delays. See Utah Administrative Code, § R746-345-3.C. Following a lengthy rulemaking proceeding, the New Hampshire PUC adopted pole attachment regulations that require most make-ready work to be completed by pole owners within 150 days following pre-payment of make-ready estimates, while the estimates themselves (for 200 poles or less) must be provided within 45 days after application. See New Hampshire Code of Administrative Rules, Parts Puc 1303.12 and 1303.04. These states have taken far different and better approaches to make-ready deadlines than the Commission. They have avoided "one size fits all" requirements by implementing varying deadlines based upon the different needs of the pole owners and attachers.

[13] Existing attachers, for instance, may not make themselves available for the ride-outs necessary to coordinate their rearrangements; they may not be responsive to new attachers; or they may provide unreasonably high make-ready cost estimates. Pole owners are powerless to compel cooperation by existing attachers, some of whom, as recognized by the Commission, compete with the proposed attachers in offering similar services.

departments, municipalities and others.[14] Neither pole owners nor new attachers typically have any contractual or other right to move such facilities.[15] Based on the experience of *Coalition* members, these types of entities tend to be highly unresponsive to requests to rearrange their facilities. To the extent these facilities must be rearranged to accommodate a new attacher, utilities will be prevented through no fault of their own from meeting any make-ready deadlines.

The Pole Attachment Act allows the Commission to regulate only the relationships between pole owners, cable companies and telecommunications providers; it does not authorize the Commission to regulate the relationship between pole owners and other non-cable, non-telecom providers such as municipalities. The *Coalition* therefore requests that the Commission reconsider its make ready deadlines to specify that they do not apply to the extent that make-ready work would require any attacher that is not a cable television system or telecommunications service provider (*e.g.*, municipality) to move its facilities.

C. Exempt Pole Replacements and the Installation of New Poles from the Deadlines

The Pole Attachment Act allows utilities to deny access for lack of capacity:

> Notwithstanding paragraph (1), a utility providing electric service may deny a cable television system or any telecommunications carrier access to its poles, ducts, conduits, or rights-of-way, on a non-discriminatory basis where there is insufficient capacity and for reasons of safety, reliability and generally applicable engineering purposes.[16]

[14] Unlike the FCC, the State of Connecticut Department of Public Utility Control ("DPUC") had the authority to order a "collaborative effort" among attaching entities and required them to complete necessary transfers in 14 days. The FCC has no similar authority.

[15] On Hawaiian Electric's poles, once a municipality or the state is attached to the pole, it becomes a joint owner of the pole like Hawaiian Electric.

[16] 47 U.S.C. §224(f)(2) (2010).

Electric utilities, in other words, need not expand capacity to accommodate attaching entities.[17] The Commission agrees. As explained most recently in the April 7 Order: "[A]s the court noted in *Southern Company*, mandating the construction of new capacity is beyond the Commission's authority."[18]

Some pole attachment applications request utilities to replace poles with taller poles or to install new poles for the first time. The installation of new poles as well as the replacement of short poles with taller poles constitutes an obvious expansion of capacity.

Since utility pole owners are not required to expand capacity to accommodate attaching entities, the Commission is not at liberty to impose make-ready deadlines governing that process. Accordingly, the *Coalition* requests that the Commission confirm that the make-ready deadlines do not apply to pole replacements or to the installation of new poles necessary to accommodate additional attachments. Such a ruling would make the April 7 Order consistent with the May 20, 2010 Order and FNPRM, in which the Commission recognized that make-ready deadlines do not apply to pole replacements.[19]

---

[17] This determination has been upheld by the 11th Circuit. In *Southern Company v. FCC*, utility petitioners objected to the Commission's 1999 decision that "utilities must expand pole capacity to accommodate requests for attachment in situations where it is agreed that there is insufficient capacity on a given pole to permit third-party pole attachments." *Southern Co. v. FCC*, 292 F.3d 1338, 1347 (11th Cir. 2002), quoting *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 (1996), *aff'd*, Order on Reconsideration, 14 FCC Rcd 18049 (1999). The 11th Circuit held that the plain language of Section 224(f)(2) explicitly prevents the Commission from mandating pole replacements: "When it is agreed that capacity is insufficient, there is no obligation to provide third parties with access to that particular 'pole, duct, conduit, or right-of-way.'" *Southern Co. v. FCC.*, 292 F.3d 1338, 1347 (11th Cir. 2002). The court further noted that "the FCC's attempt to mandate capacity expansion is outside of its purview under the plain language of the statute." *Id.*

[18] April 7 Order at ¶ 95 ("The 'terms and conditions' of pole attachment encompass the process by which new attachers gain access to a pole, however, and setting deadlines and remedies for that process has been held not to constitute a mandate to expand capacity.").

[19] *In re Implementation of Section 224 of the Act: A National Broadband Plan for Our Future*, Order and Further Notice of Proposed Rulemaking, WC Docket No. 07-25 *et al.*, FCC 10-84 (May 20, 2010), at ¶ 33 ("May 20, 2010 Order and FRPRM") ("We also incorporate … the Coalition Proposal request to exclude from this timeline pole replacement . . ..").

D. Postpone Implementation of the New Make-Ready Deadlines for 180 Days, Then Gradually Phase Them in to Allow Utility Pole Owners Sufficient Time to Revise Their Operating Procedures

In order to meet the demands of the Commission's new and unprecedented make-ready deadlines, electric utility pole owners will need sufficient time to recast completely their pole attachment application processes and to develop appropriate operating procedures for handling the new requirements. Decisions must be made whether the new deadlines will require the make-ready engineering and survey work to be done internally or with outside labor, and whether attacher-supplied data may be relied upon. Utility engineering departments must identify contractors to perform such work and establish processes that will govern it. Utility personnel throughout each utility must be trained regarding the new requirements.

Internal scheduling and metrics must be revised and reports created to track the multiple timing issues pertaining to every one of the hundreds (and oftentimes thousands) of make-ready requests that utilities process each year. To develop these metrics, each of the multiple intervening steps must be monitored, including when each job was assigned to which persons responsible for the next phase of the make-ready project.

To provide the Commission with an idea of the scope of this undertaking, Pepco Holdings, Inc. developed the four-page spreadsheet attached hereto at Exhibit A with the sole purpose of keeping track of the timelines associated with what at that time had been 78 different tasks associated with only one make-ready project. Larger and more complicated projects will require even more checkpoints. The Commission's new requirements also will add substantially to the notice and other processes that must be monitored for compliance.

In order to provide sufficient time to plan for and accommodate attachers and the new deadlines, the *Coalition* requests that the Commission delay the implementation of the deadlines established in the April 7 Order *by one hundred and eighty (180) days*. In light of the

unprecedented nature and scope of the Commission's new requirements, this modest transition period is not unreasonable.

In addition, once these deadlines become effective, utility pole owners and attaching entities alike will need time in which to see how the process works in practice. No one can predict with certainty the amount of work that will be requested or the real world experiences ahead. The operational processes designed by utilities to meet the deadlines will need to be tested and revised as they are implemented. A phase-in, rather than an abrupt cut-over, is appropriate.

To provide time to revise the process based on experience, the *Coalition* requests that the Commission provide a graduated phase-in of the make-ready deadlines. For the first six months that the deadlines are effective, the lower limit on pole numbers subject to the deadlines should be *50 poles per month*, and the upper limit should be *250 poles per month*, for applications by all attaching entities. After the initial six months have elapsed, these numbers can then be increased to the *100-pole* and *500-pole* limits requested by the *Coalition* above.

E. Expand the Definition of Events that May "Stop the Clock"

The April 7 Order established a "good and sufficient cause" standard for events that can be used to stop the make-ready clock, but identifies only a single event – "an emergency that requires federal disaster relief" – as an example that would qualify.[20] No other event is identified, even though "good and sufficient cause" would appear to be a broad exception.

Based on the realities of the make-ready process, the *Coalition* asks the Commission to reconsider its rules regarding delays in the make-ready process. The following events provide "good and sufficient cause" and should be considered grounds to "stop the clock" and toll the make-ready deadlines:

[20] April 7 Order, at ¶ 68.

1. Seasonal Storms

The Commission characterizes seasonal storms as "routine"[21] and not an excuse for tolling the make-ready deadlines. For electric utilities, however, seasonal storms that interrupt the delivery of electric power to hundreds if not thousands of customers are anything but "routine" and require immediate emergency manpower response.

When large seasonal storms occur,[22] power companies are stretched extremely thin to make sure that electric service is restored as soon as possible. During a storm outage, the utility's line construction resources, engineering resources, dispatch personnel, supervisors, managers, meter readers, highway workers, salaried staff and others are pulled from their regular duties to assist in service restoration efforts anywhere that the utility serves, including other operating companies owned by the utility. This "all hands on deck" approach is common to all electric utilities and it precludes the performance of any new make-ready work in the interim, including make-ready work requested by communications attachers.

Not only do utilities apply this "all hands on deck" approach to the restoration of their own local service outages, they also routinely lend line crews, along with design and engineering personnel and management expertise, to assist other electric utilities in the restoration of their power. These mutual assistance arrangements are necessary because the extraordinary nature of storm restoration work often requires far more personnel than even the utility's own fully reassigned personnel. Attached at Exhibit B is a list provided by FirstEnergy of the multiple other electric companies throughout much of the country that have entered into mutual assistance agreements with FirstEnergy to cooperate in the recovery from weather

[21] April 7 Order, at ¶ 68.
[22] *See, e.g.*, "'Snowmageddon' slams D.C.; hundreds of thousands without power," CNN.com, February 5, 2010, http://articles.cnn.com/2010-02-05/us/winter.storm_1_wet-snow-power-saturday-morning-dominion-virginia-power?_s=PM:US (last accessed June 7, 2011).

events and other natural disasters. These are not simple "seasonal outages" that can be superseded by the Commission's make-ready deadlines.

To recognize these storm restoration realities, the *Coalition* requests that the Commission adopt an objective test for these events: *if a company's normal internal staffing is not available due to a weather event or other force majeure event, the make-ready clock should be tolled.* This tolling must extend to an appropriate number of days following such an event, as well, since utilities must provide rest to overextended workers who have been working 16-hour days to help their own as well as neighboring or even distant utilities and the public they serve in recovering from a storm or other weather event.

2. Government Permits and Private Property Easements

The Commission also should stop the make-ready clock for pole attachment projects that are hindered by the local government permit process, which also rests far beyond the control of electric utilities and can create uncontrollable delays in attachment projects. For example, make-ready projects may require a utility truck to be parked on a road, which requires a permit from the city or county or state department of transportation. Without the permit, there can be no parking. Police may need to be hired to direct traffic or otherwise protect a work area. Without such assistance, there can be no work. Environmental permits may be required by the state environmental agencies and/or the federal Environmental Protection Agency. Without the permits, the work cannot occur.

Property rights may need to be obtained to authorize the attachments as requested by the attacher because, for example, a guy wire may need to be installed on private property. Without the private easement, the attachment cannot occur.

All of these types of occurrences (and this is not an exclusive list) raise issues and cause delays that an electric utility cannot control. The utility should not be responsible for any such delays that preclude compliance with the new deadlines.

3. Preexisting Safety Violations

The make-ready deadlines also should be tolled if existing attachments are found to be in violation of safety codes, at least until the time it is agreed which attaching entity should be responsible for paying to correct the safety violation. Utilities did not create those violations and should not be held responsible for fixing them within the new deadlines.

Coalition members, like most utilities, have encountered numerous preexisting safety violations on poles to which new attachers seek access. Often there is considerable dispute about which existing attacher may have caused the safety violation. To alleviate these disputes and to allow the parties to get on with the necessary make-ready work, the Commission should establish three presumptions regarding who may have caused the existing violation. *First*, to the extent that an unauthorized attachment exists on the pole, the presumption should be that the unauthorized attacher caused the safety violation. *Second*, the attacher whose attachment is not in compliance with the rules should bear the responsibility to pay to correct the violation (*i.e.*, the attachment should be taken "as found"). *Third*, the deadline clock should not start to "run" under these circumstances until the safety violation has been fixed by the causer.

Implementing these presumptions will alleviate the considerable delay associated with determining who may have caused a safety violation that must be fixed before an attaching entity can gain access to a pole. Without these presumptions, disputes will continue indefinitely while the affected utility is unable to take action on the new attachment request.

4. Inadequate Route Design of New Attacher

After the acceptance of an attacher's application, and while a utility is performing its initial engineering survey of the new attachment request, it is common for the utility to find deficiencies in the attacher's route design that must be corrected before the electric utility can complete its engineering design. Examples include: (1) attachment requests that specify attachment heights on the pole that would result in inadequate ground clearances; (2) inadequate spacing of attachments on the pole, or the crossing of other attachments on the pole; and (3) lack of appropriate guying for the new attacher's facilities. These issues need to be resolved by the new attacher before utility engineering design can be finalized and they cause delays that an electric utility cannot control. Where such deficiencies exist, the make-ready deadlines should be restarted beginning on the date that the attacher's route design is corrected and resubmitted.

III. SAFETY ISSUES

While the *Coalition* appreciates that the Commission adopted rules in the April 7 Order that finally allow an utility to combat the massive problem of unauthorized attachments, [23] noticeably absent from the decision is any recognition of the corresponding problem of safety violations. As with unauthorized attachments, utilities need the regulatory authority to combat the endemic problem of attacher safety violations.[24]

A. Apply Oregon's Safety Violation Penalties as Well as Unauthorized Attachment Penalties

While the April 7 Order cites with approval Oregon's rules allowing utility pole owners to incorporate unauthorized attachment penalties into pole attachment agreements,[25] the

[23] April 7 Order, at ¶115.
[24] August 17 Comments, at 93.
[25] April 7 Order, at ¶115.

Commission on reconsideration also should rule that utility pole owners may impose penalties for safety violations in the amount of $200 per violation, again consistent with Oregon's rules.[26]

In today's competitive environment, speed-to-market and cost cutting are the forces driving the rollout of new communication services. Electric system safety, reliability and efficiency, on the other hand, are alien to this environment.[27]

Contractors hired by cable companies, CLECs and ILECs cannot be depended on to keep the electric distribution system operating safely and reliably. Utilities need regulatory tools to combat the problem and the Commission must promote responsible behavior on the part of those who are granted mandatory access. To that end, the Commission should allow utility pole owners to impose penalties for safety violations in the amount of *$200 per violation*, again consistent with Oregon's rules.[28]

B. Apply The Unauthorized Attachment and Safety Violation Penalties Automatically Regardless of the Pole Attachment Agreement

Rather than providing that Oregon's unauthorized attachment penalties apply automatically to electric utilities and communications attachers that are subject to the FCC's jurisdiction, the April 7 Order requires that they first be imbedded in a pole attachment

[26] Or. Admin. R. § 860-028-0150(1)-(2) (2008).

[27] Construction crews hired by cable companies and telephone companies often are paid to string cables over utility poles per mile or per pole (i.e., in a manner that rewards speed but not safety). Distance covered, not quality of work, is the prime objective. The faster they string cable, the more they get paid. Noncompliant attachments "count" as much as compliant ones. Adding to the problem, communications attachers often appear to be poorly trained with respect to NESC compliance. They take shortcuts that make their jobs easier but do not conform with established safety and construction practices. Unlike electric companies, many cable companies, CLECs and emerging telecommunication service providers do not even have in place established safety programs or qualified engineering and safety departments. Minimal oversight of work contracted by attachers is not unusual. As a result, *Coalition* members have encountered countless NESC violations caused by attachers, including clearance violations, improper pole guying, ungrounded messenger wires and other equipment, excessive overlashing, improper use of boxing and extension arms, improper installation of equipment, improper hole drilling, the displacement and damage of utility equipment, customer outages, and a host of additional safety violations and poor construction practices. In addition, huge bundles of coiled cables, wires duct-taped to poles and splices covered by garbage bags are not uncommon, causing an eyesore at a minimum but more importantly wind and ice-loading concerns.

[28] Or. Admin. R. § 860-028-0150(1)-(2) (2008).

agreement before they can be enforced.[29] This is an unnecessary limitation that is incongruous with the other regulations promulgated in the April 7 Order that are applicable automatically. It should be revised on reconsideration.

It is highly unlikely that any attaching entity will be eager to agree to new unauthorized attachment penalties or to the new safety violation penalties unless compelled. Instead, it makes much more sense to impose automatically all of the new regulations as a package, including the unauthorized attachment and safety violation penalties. To remedy this concern, the *Coalition* requests on reconsideration that the Commission revise its April 7 ruling to state that the Oregon unauthorized attachment penalties and safety violation penalties apply automatically to all utilities and attachers subject to Commission jurisdiction.

C. Allow Pole Owners to Discontinue Or Limit Use of Boxing and Extension Arms Going Forward, Regardless of Past Policy

With respect to boxing and extension arms, the April 7 Order clarifies that:

> a utility may not simply prohibit an attacher from using boxing, bracketing, or any other attachment technique on a going forward basis where the utility, at the time of an attacher's request, employs such techniques itself. As Fibertech points out, even a policy that is equally applied prospectively is discriminatory in the sense that it disadvantages new attachers…. A utility may, however, choose to reduce or eliminate altogether the use of a particular method of attachment used on its poles, including boxing or bracketing, which would alter the range of circumstances in which it is obligated to allow future attachers to use the same techniques.[30]

This ruling may be read to require utility pole owners to require attaching entities to remove all instances of boxing, extension arms and other attachment techniques permitted in the past if it ever wishes to prohibit such use in the future. Such an interpretation, however, would require utilities wishing to control widespread abuse of boxing and extension arm use to disrupt

[29] April 7 Order, at ¶ 118.
[30] April 7 Order, at ¶ 227 (footnotes omitted).

existing attachments and force existing attachers to expend considerable time and resources in removing their existing attachments.

The *Coalition* requests clarification that utilities may restrict future use of boxing and extension arms on their poles by imposing a new policy applicable to all attaching entities going forward, regardless of whether the utility has chosen to do so in the past. This clarification would eliminate any need for attaching entities to remove or otherwise modify existing attachments. This is not "discriminatory," as Fibertech claims, but treats similarly situated attachers similarly while saving existing attachers considerable expense.

D. Allow Utilities to Prohibit Pole-Top Attachments if Nondiscriminatory

With respect to the attachment of wireless antennas to electric utility poles, the April 7 Order stated that "a wireless carrier's right to attach to pole tops is the same as it is to attach to any other part of a pole."[31] In response to wireless attacher complaints that some utilities assert blanket prohibitions to pole top attachments of wireless antennas, the Commission ruled that such blanket prohibitions are not permitted.[32]

If a wireless attacher's rights to attach to pole tops are to be the same as its rights to attach to any other part of the utility pole, then the electric utility pole owner's judgment with respect to the effect of those wireless installations on electric utility "safety, reliability and generally applicable engineering purposes" must be respected, as required by the Act, as it is on other parts of the pole.[33]

Some utilities like Consumers Energy and FirstEnergy do not allow *any* entity, including the electric utility pole owner itself, to install wireless antennas on pole tops. NSTAR, in fact, is

[31] April 7 Order, at ¶ 77.
[32] April 7 Order, at ¶ 77.
[33] 47 U.S.C. § 224(f)(2).

in the process of taking its antennas down from the tops of utility poles with high voltage primary electric conductors attached because they have become a safety issue. These are legitimate safety considerations well within the purview of individual electric companies.

The Act requires utilities to provide nondiscriminatory access to their facilities but does not override a utility's right to make "safety, reliability and generally applicable engineering" decisions. Consistent with these requirements, the *Coalition* requests the Commission rule on reconsideration that to the extent a utility disallows *any* wireless antenna of *any* type, including its own, to be installed on pole tops, it should be entitled to disallow any such proposed installation by a communications attacher.[34] To hold otherwise would insert the Commission into a statutory area ("safety, reliability and generally applicable engineering") reserved solely for electric utilities.

IV. ATTACHER REARRANGEMENT ISSUES

To facilitate both broadband deployment and the safe and efficient distribution of electric utility services, a number of related decisions in the April 7 Order should be reconsidered in light of the real world of electric utility operations.

A. Allow Utility Pole Owners to Require Attacher Participation in NJUNS, SPANS or Some Other Electronic Attachment Notification System

The April 7 Order adopts the rule that utilities must notify all existing attachers of pending make-ready when a new project is set to enter the make-ready phase.[35] If a series of poles has multiple attachers, this notification process can be difficult and time-consuming, making it problematic to provide the "immediate" notification required by the rules.

[34] Of course, the option to attach the antenna in the communications space would still be available.
[35] April 7 Order, at ¶ 60 ("Upon receipt of payment from the attacher, we require a utility to notify immediately and in writing all known entities with existing attachments that may be affected by the planned make-ready.")

NJUNS, the National Joint Use Notification System, is an extremely useful tool for pole owners and attachers that ensures both owners and attachers will keep informed of the progress of their pole attachment projects.[36] Additionally, the system tracks existing attachments, so if any attachers need to be moved or have their attachments modified, NJUNS can quickly and efficiently notify them.[37] To be successful, however, participation must involve both utilities and attachers alike.

On reconsideration, the *Coalition* requests that the Commission allow utility pole owners to require all attachers to participate in NJUNS or whatever other electronic notification system the utility establishes, to efficiently facilitate the notification process for new attachments. Without electronic notification, "immediate notification" will be impossible in the real world.

B. Reimburse Pole Owners If They Are Forced To Move Existing Attachers

The April 7 Order allows pole owners to move existing attachments if the existing attachers do not move their attachments in a timely manner.[38] Although this work by electric utility pole owners certainly qualifies as make-ready performed on behalf of a new attacher, it is not clear from the April 7 Order that pole owners must be reimbursed for it as they are for any other make-ready work incurred on behalf of attachers.

On reconsideration, the Commission should specify that pole owners are entitled to be reimbursed by the new attacher for moving existing attachments if the existing attachers do not move their attachments in a timely manner.

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[36] More information on NJUNS is available at http://www.njuns.com/ (last accessed June 7, 2011).
[37] NJUNS is available to assist in satisfying the Commission's requirement for immediate notification. Other commercial electronic notification systems such as SPANS are also available to assist in this process. More information on SPANS is available at http://windlakesolutions.com/spans.htm (last accessed June 7, 2011).
[38] April 7 Order, at ¶ 30.

C. Exclude Utility Pole Owners From Liability When Existing Attacher Facilities Must Be Moved By The Owner Or A Contractor Hired By The New Attacher

If the make-ready deadlines are not met, the April 7 Order requires utility pole owners to move existing communications attachments themselves or allow the new attacher to hire a contractor to move them.[39]

This mandatory rearrangement or relocation of existing attachments by other entities may result in damage to existing attachments, interruption of service to customers, or even injury or death to workers on the pole or the public at large. As the owner of the pole, electric utilities are commonly included as defendants in any court action seeking remedies for such injury or damage.

The Commission on reconsideration should rule that utility pole owners cannot be held liable for damages, including consequential damages, resulting from the mandatory rearrangements or relocations required by the new rules.

V. JOINT POLE OWNER ISSUES

The April 7 Order recognized the unique considerations applicable to jointly-owned poles (*i.e.*, poles owned by both electric utilities and ILECs). To facilitate ease of administration of the new rules, the *Coalition* recommends the following decisions on reconsideration.

A. Ease the Requirement That Joint Owners of Poles Coordinate Application and Payment Processes

The April 7 Order declined to require joint owners of individual poles to appoint a managing utility of each pole but nevertheless declared that "utility procedures requiring attachers to undergo a duplicative permitting or payment process to be unjust and

[39] April 7 Order, at ¶ 30.

unreasonable."[40] These findings are inconsistent and counterproductive, and should be abandoned by the Commission on reconsideration.[41]

As explained in the *Coalition's* Comments, this requirement to delegate the permitting and payment process to one of the joint owners is unworkable and would provide little real benefit to attaching entities.[42] Both owners of a jointly-owned pole should be permitted to require separate permitting and payment processes, since each has unique requirements.[43] Should the Commission decide instead to impose this burdensome and ineffective requirement on joint pole owners, the *Coalition* requests a specific ruling that all related costs incurred by the pole owners be recoverable.

B. Allow Each Owner To Independently Opt for Stricter Boxing and Extension Arm Restrictions

With respect to boxing and extension arms on jointly-owned poles, the April 7 Order clarifies that:

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[40] *Id.*

[41] Requiring joint pole owners to eliminate "duplicative" permitting or payment processes in effect requires them to appoint a single managing utility for that application request.

[42] August 17 Comments, at 72.

[43] The two different types of pole owners (electric and communications) are engaged in different businesses and operate independently. It makes no sense and would be unsafe as a practical matter to require one entity to engage in decisions affecting the other's business through unilateral control of the jointly owned pole distribution system. The two pole owners do not possess sufficient knowledge of each other's operations, and one joint owner may not place the same priority on certain items as does the other. The nature of electric distribution service, for example, makes electric utilities extremely safety conscious regarding work that takes place in or near the power space. If the electric utility were a non-managing joint owner, it would be difficult to ensure that the managing ILEC joint owner were similarly focused on electric distribution safety issues. There are other practical obstacles to this proposal, as well. Since an ILEC has no expertise in electric utility design and operations, it would be unable to ensure that the electric utility's standards are being met. For the same reason, the ILEC cannot develop an electric utility's work scope and cost estimate for make-ready or defend the electric utility's cost estimates, if it were inclined to defend another utility's costs. If both pole owners were entitled to attachment fees, one owner would have to create records in the business systems of the other, and one owner would have to trust the other to collect and reimburse the appropriate amount. Setting aside the operational impossibilities, this proposal would likely do little to expedite attachments in any event. Attachers typically must work with two pole owners for most jobs anyway. Solely-owned poles are often sprinkled throughout the service area that joint pole owners share in common. It is an exception that attachment applications involving jointly owned poles do not include at least some solely-owned poles. As a result, two utilities would be involved in the deployment even if only one managed particular poles in the system.

> where a pole is jointly owned and the owners have adopted different standards regarding the use of boxing, bracketing, or other attachment techniques, the joint owners may apply the more restrictive standards …. In order to avoid a claim that their terms and conditions for access are unjust, unreasonable or discriminatory, joint pole owners should settle on and apply a single set of standards – not different sets at different times.[44]

This ruling could be interpreted to require both owners to agree on the proper standard to apply to jointly-owned poles. Instead, on reconsideration, the Commission should allow either joint owner to insist that both joint owners apply the more restrictive standard to all poles that are jointly owned. In joint ownership relationships, each owner must be entitled to disapprove of any third-party attachment technique. Thus, if one owner does not approve of boxing in a certain circumstance, then the other joint owner should be required to comply with that restriction.

VI. PROHIBIT REFUNDS EARLIER THAN THE EFFECTIVE DATE OF THE APRIL 7 ORDER

In the April 7 Order, the Commission amended Rule 1.1410(c) "to allow monetary recovery in a pole attachment action to extend as far back in time as the applicable statue of limitations allows."[45] In essence, however, this new requirement re-writes the Commission's rules and provides new liability for pole owners after the fact.

As explained in the *Coalition's* Comments, permitting attachers to recover refunds dating back years before a complaint is filed eliminates any incentive for them to resolve rate issues in a timely manner.[46] For that reason alone, the Commission should reconsider its ruling that refunds can date back to the statute of limitations.

[44] April 7 Order, at ¶ 228.
[45] April 7 Order, at ¶ 112.
[46] August 17 Comments, at 93.

Prior to this ruling, neither utility pole owners nor attaching entities had any expectation that refunds could date back further than the date of a complaint. To avoid an unexpected and unjust result, the Commission on reconsideration should clarify that refunds cannot date back further than the effective date of its new rules.

VII. CONCLUSION

WHEREFORE, THE PREMISES CONSIDERED, the *Coalition of Concerned Utilities* urges the Commission to act in a manner consistent with the views expressed herein.

Respectfully submitted,

COALITION OF CONCERNED UTILITIES

Consumers Energy
Detroit Edison
FirstEnergy Corp.
Hawaiian Electric Co.
NSTAR
Pepco Holdings, Inc.

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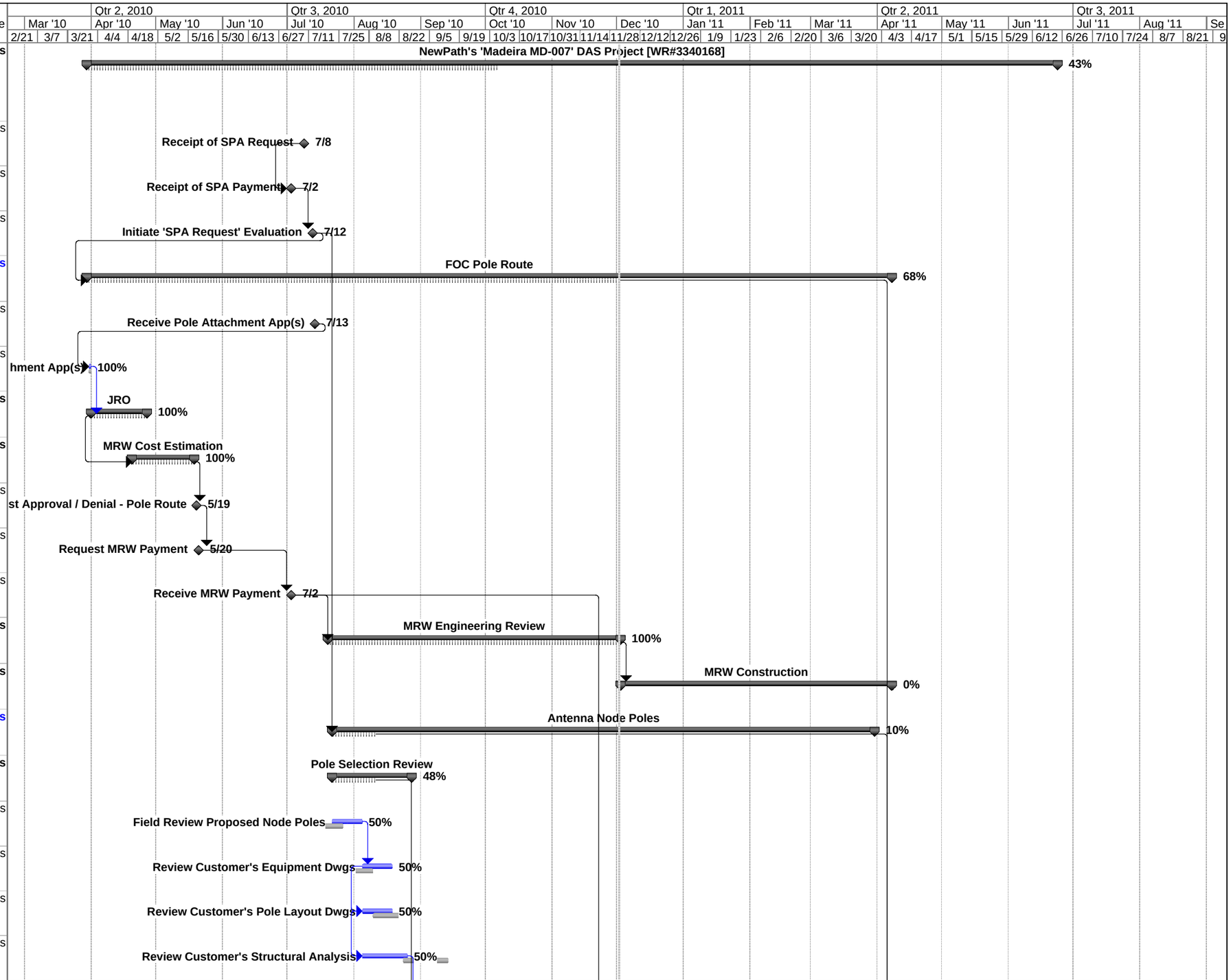
EXHIBIT A

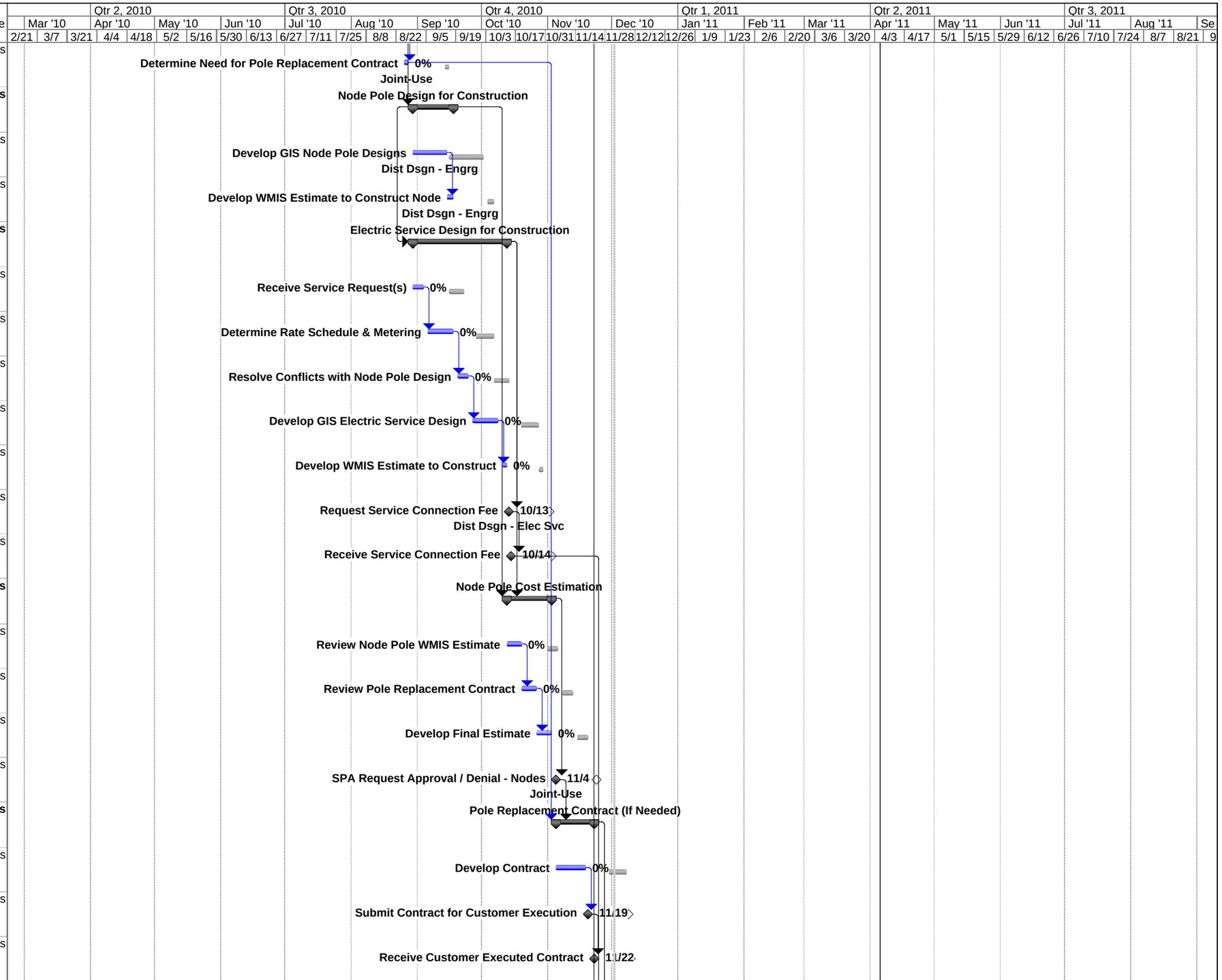
ID		Task Name	Duration	Start Variance	Finish Variance
1		**NewPath's 'Madeira MD-007' DAS Project [WR#3340168]**	**323 days?**	**0 days**	**-7 days**
2		Receipt of SPA Request	1 day	0 days	0 days
3		Receipt of SPA Payment	1 day	0 days	0 days
4		Initiate 'SPA Request' Evaluation	1 day	0 days	0 days
5		**FOC Pole Route**	**268 days?**	**0 days**	**23 days**
6		Receive Pole Attachment App(s)	2 days	0 days	0 days
7		Review Pole Attachment App(s)	1 day	0 days	0 days
8		**JRO**	**18 days**	**0 days**	**0 days**
11		**MRW Cost Estimation**	**21 days**	**0 days**	**0 days**
15		SPA Request Approval / Denial - Pole Route	1 day	0 days	0 days
16		Request MRW Payment	1 day	0 days	0 days
17		Receive MRW Payment	1 day	0 days	0 days
18		**MRW Engineering Review**	**98 days?**	**0 days**	**23 days**
25		**MRW Construction**	**90 days?**	**23 days**	**23 days**
29		**Antenna Node Poles**	**180 days?**	**7 days**	**-13 days**
30		**Pole Selection Review**	**27 days?**	**7 days**	**-13 days**
31		Field Review Proposed Node Poles	10 days	7 days	7 days
32		Review Customer's Equipment Dwgs	10 days?	7 days	7 days
33		Review Customer's Pole Layout Dwgs	10 days?	-3 days	-3 days
34		Review Customer's Structural Analysis	15 days?	-13 days	-13 days



Project: NewPath's 'Madeira MD-007'
Date: Thu 12/2/10

Critical	Task	Baseline	Milestone	Project Summary	Deadline
Critical Split	Split	Baseline Split	Summary Progress	External Tasks	
Critical Progress	Task Progress	Baseline Milestone	Summary	External Milestone	

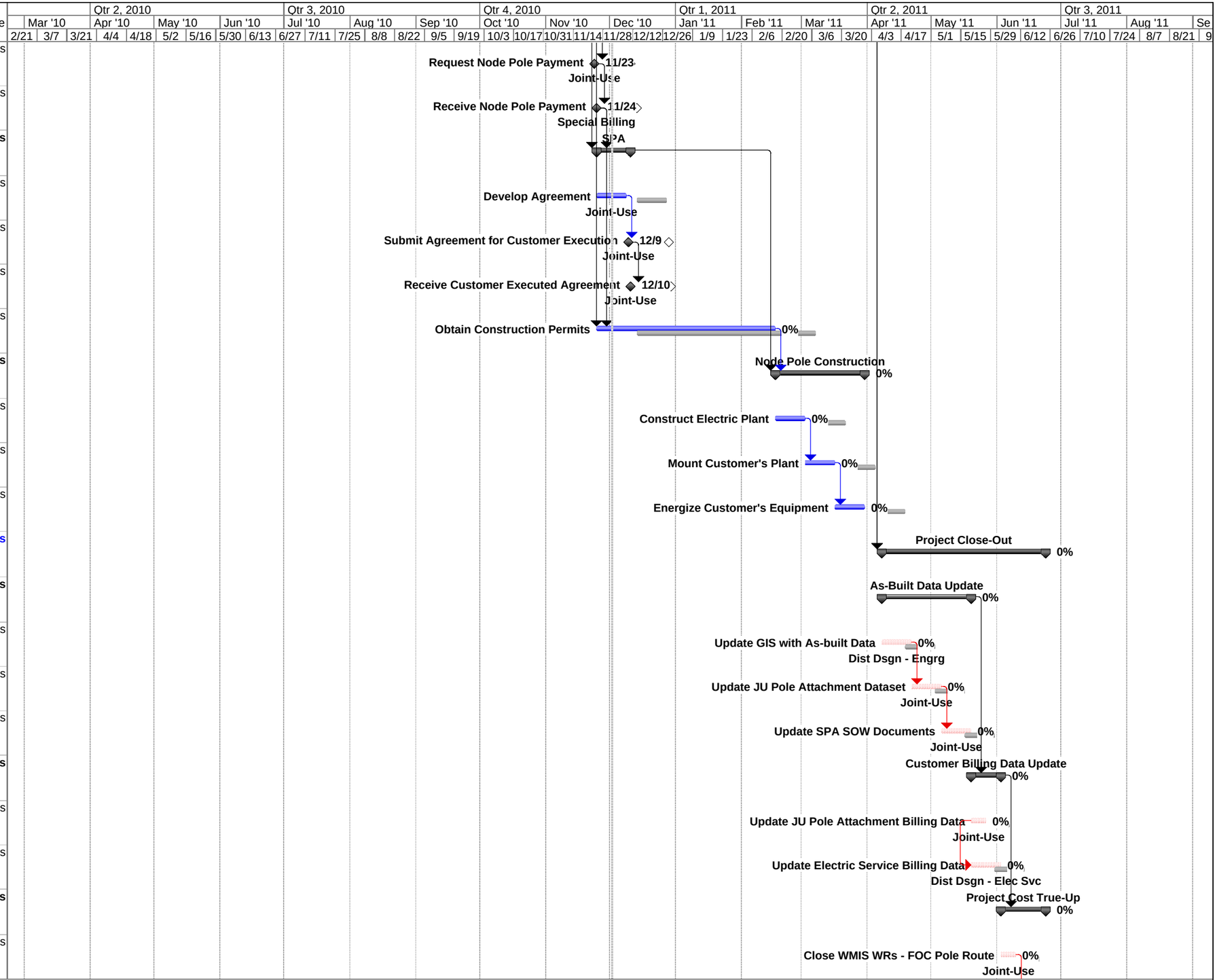
ID		Task Name	Duration	Start Variance	Finish Variance
35		*Determine Need for Pole Replacement Contract*	2 days?	-13 days	-13 days
36		**Node Pole Design for Construction**	**15 days?**	**-13 days**	**-13 days**
37		Develop GIS Node Pole Designs	12 days?	-13 days	-13 days
38		Develop WMIS Estimate to Construct Node	3 days?	-13 days	-13 days
39		**Electric Service Design for Construction**	**32 days?**	**-13 days**	**-13 days**
40		Receive Service Request(s)	5 days?	-13 days	-13 days
41		Determine Rate Schedule & Metering	10 days?	-13 days	-13 days
42		Resolve Conflicts with Node Pole Design	5 days?	-13 days	-13 days
43		Develop GIS Electric Service Design	10 days?	-13 days	-13 days
44		Develop WMIS Estimate to Construct	2 days?	-13 days	-13 days
45		Request Service Connection Fee	1 day?	-13 days	-13 days
46		Receive Service Connection Fee	1 day?	-13 days	-13 days
47		**Node Pole Cost Estimation**	**15 days?**	**-13 days**	**-13 days**
48		Review Node Pole WMIS Estimate	5 days?	-13 days	-13 days
49		Review Pole Replacement Contract	5 days?	-13 days	-13 days
50		Develop Final Estimate	5 days?	-13 days	-13 days
51		SPA Request Approval / Denial - Nodes	2 days?	-13 days	-13 days
52		***Pole Replacement Contract (If Needed)***	**12 days?**	**-13 days**	**-13 days**
53		*Develop Contract*	10 days?	-13 days	-13 days
54		*Submit Contract for Customer Execution*	1 day?	-13 days	-13 days
55		*Receive Customer Executed Contract*	1 day?	-13 days	-13 days



Project: NewPath's 'Madeira MD-007'
Date: Thu 12/2/10

Critical	Task	Baseline	Milestone	Project Summary	Deadline
Critical Split	Split	Baseline Split	Summary Progress	External Tasks	
Critical Progress	Task Progress	Baseline Milestone	Summary	External Milestone	

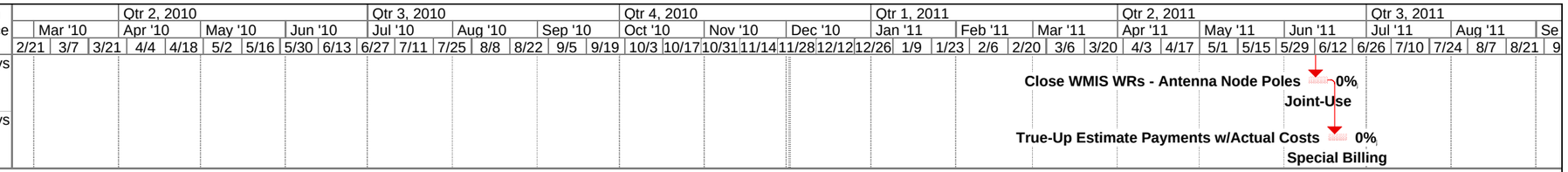
ID		Task Name	Duration	Start Variance	Finish Variance
56		Request Node Pole Payment	1 day?	-13 days	-13 days
57		Receive Node Pole Payment	1 day?	-13 days	-13 days
58		**SPA**	**12 days?**	**-13 days**	**-13 days**
59		Develop Agreement	10 days?	-13 days	-13 days
60		Submit Agreement for Customer Execution	1 day?	-13 days	-13 days
61		Receive Customer Executed Agreement	1 day?	-13 days	-13 days
62		Obtain Construction Permits	60 days?	-13 days	-13 days
63		**Node Pole Construction**	**30 days?**	**-13 days**	**-13 days**
64		Construct Electric Plant	10 days?	-13 days	-13 days
65		Mount Customer's Plant	10 days?	-13 days	-13 days
66		Energize Customer's Equipment	10 days?	-13 days	-13 days
67		**Project Close-Out**	**55 days?**	**-7 days**	**-7 days**
68		**As-Built Data Update**	**30 days?**	**-7 days**	**-7 days**
69		Update GIS with As-built Data	10 days?	-7 days	-7 days
70		Update JU Pole Attachment Dataset	10 days?	-7 days	-7 days
71		Update SPA SOW Documents	10 days?	-7 days	-7 days
72		**Customer Billing Data Update**	**10 days?**	**-7 days**	**-7 days**
73		Update JU Pole Attachment Billing Data	5 days?	-7 days	-7 days
74		Update Electric Service Billing Data	10 days?	-7 days	-7 days
75		**Project Cost True-Up**	**15 days?**	**-7 days**	**-7 days**
76		Close WMIS WRs - FOC Pole Route	5 days?	-7 days	-7 days



Project: NewPath's 'Madeira MD-007'
Date: Thu 12/2/10

Critical
Critical Split
Critical Progress
Task
Split
Task Progress
Baseline
Baseline Split
Baseline Milestone
Milestone
Summary Progress
Summary
Project Summary
External Tasks
External Milestone
Deadline

ID		Task Name	Duration	Start Variance	Finish Variance
77		Close WMIS WRs - Antenna Node Poles	5 days?	-7 days	-7 days
78		True-Up Estimate Payments w/Actual Costs	5 days?	-7 days	-7 days



Project: NewPath's 'Madeira MD-007'
Date: Thu 12/2/10

Critical	Task	Baseline	Milestone	Project Summary	Deadline
Critical Split	Split	Baseline Split	Summary Progress	External Tasks	
Critical Progress	Task Progress	Baseline Milestone	Summary	External Milestone	

EXHIBIT B

List of Companies for Which FirstEnergy
Has Entered Into Mutual Assistance Agreements

- Mid-Atlantic Mutual Assistance Group (MAMA)
  - Duquesne Light
  - BGE
  - PECO
  - Orange & Rockland, Pike County Light & Power Co., Rockland Electric Company
  - Pepco Holdings, Inc.
  - PSEG
  - PPL
- Great Lakes Mutual Assistance Group (GLMA)
  - AEP
  - Consumers Energy
  - DP&L
  - DTE Energy
  - ComEd
  - Duke Energy
  - NIPSCO
  - ITC
  - Vectren
  - LG&E
  - KU
  - WE
  - IPL
- New York Mutual Assistance Group (NYMAG)
  - Central Hudson
  - conEdison
  - NYSEG
  - RG&E
  - NationalGrid
  - Orange & Rockland, Pike County Light & Power Co., Rockland Electric Company
  - Northeast Utilities
- Southeastern Electric Exchange (SEE)
  - AEP
  - CenterPoint Energy
  - CLECO
  - BGE
  - DP&L
  - Entergy
  - PPL
  - Pepco Holdings, Inc.
  - SCE&G
  - Progress Energy
  - Florida Public Utilities
  - TECO
  - TNMP
  - Southern Company

EXHIBIT D


4500


4500

EXHIBIT E

	A	B	C	D	E	F	G	H	I	J	L
1											
2											
3											
4											
5											
6			**XYZ Utility**								
7			**Annual Pole Cost Calculation (Year-End 2016)**								
8											
9											
10											
11		**Net Cost of a Bare Pole Calculation**						Source			
12											
13	Gross Distribution Plant					6,135,002,143					
14	Gross Pole Investment (Acct. 364)					1,280,325,799					
15	Distribution Plant Accumulated Depreciation					2,404,461,769					
16	Depreciation Reserve (Poles)					501,791,908.8		F14/F13*F15			
17	Gross Plant Investment (Electric)					10,865,724,347					
18	Accumulated Deferred Taxes (Electric)(190, 281-3)					1,646,628,526					
19	Accumulated Deferred Taxes(Accts. 190, 281-3)(Poles)					194,024,891		F14/F17*F18			
20	Net Pole Investment					584,508,999		F14-F16-F19			
21	Appurtenances Factor					0.85		FCC Presumption			
22	Net Pole Investment Allocable to Attachments					496,832,649.27		F20*F21			
23	Total Number of Poles					1,476,313					
24	**Net Cost of a Bare Pole**					**336.5361202**		**F22/F23**			
25											
26											
27	.	**Carrying Charge Calculation**									
28											
29	Total General and Administrative					178,713,850					
30	Gross Plant Investment (Electric)					10,865,724,347					
31	Depreciation Reserve (Electric)					4,033,478,179					
32	Accumulated Deferred Taxes (Electric)(190, 281-3)					1,646,628,526					
33	**Administrative Carrying Charge**					**0.034463368**		F29/(F30-F31-F32)			
34											
35	Account 593 (Maintenance of Overhead Lines)					90,708,036					
36	Investment in Accts. 364,365 & 369					3,124,367,353					
37	Depreciation (Poles) related to Accts. 364, 365 & 369					1,224,518,212		F36/F13*F15			
38	Accumulate Deferred Income Taxes for 364, 365 & 369					473,477,170		F36/F17*F18			
39	**Maintenance Carrying Charge**					**0.063593535**		F35/(F36-F37-F38)			
40											
41	Gross Pole Investment (Acct. 364)					1,280,325,799					
42	Net Pole Investment					584,508,999		F14-F16-F19			
43	Depreciation Rate for Gross Pole Investment					0.0416					
44	**Depreciation Carrying Charge**					**0.09112187**		F41/F42*F43			
45											
46	Taxes (Accts. 408.1 + 409.1 + 410.1 + 411.4 - 411.1)					576,284,758					
47	Gross Plant Investment (Total Plant)					16,274,934,211					
48	Depreciation Reserve (Total Plant)					6,691,199,956					
49	Accumulated Deferred Taxes (Total Plant)(190, 281-3)					2,158,340,987					
50	**Taxes Carrying Charge**					**0.077609998**		F46/(F47-F48-F49)			
51											
52	Rate of Return					0.0806		Latest ROR approved by State PSC			
53	**Return Carrying Charge**					0.0806					
54											
55	**Total Carrying Charges**					**0.3474**		F33+F39+F44+F50+F53			
56											
57											
58		**ANNUAL POLE COST CALCULATION**									
59											
60											
61	**Net Cost of a Bare Pole**					**336.5361202**		F24			
62	**Total Carrying Charges**					**0.347388772**		F55			
63	**Annual Cost Per Pole**					**116.91**		F61*F62			

	A	B	C	D	E	F	G	H	I	J
1					**CABLE-ONLY RATE**					
2					**XYZ Utility (Year-End 2016)**					
3										
4										
5										
6		**Attacher Responsibility Percentage**						Source		
7										
8	Space Occupied				1			FCC Presumption		
9	Usable Space				13.5			FCC Presumption		
10	**Attacher Responsibilty Percentage**				**0.0740741**			E8/E9		
11										
12										
13	**Attacher Responsibility Percentage**					0.07407407		E10		
14	**Net Cost of a Bare Pole**					336.53612		Annual Cost Worksheet, F61		
15	**Total Carrying Charges**					0.34738877		Annual Cost Worksheet, F62		
16	**Cable-Only Rate**					**8.6599**		F13*F14*F15		
17										
18										
19										
20										
21										

	A	B	C	D	E	F	G	H	I	J	L
1											
2											
3											
4											
5											
6			**XYZ Utility**								
7			**Annual Pole Cost Calculation (Year-End 2016)**								
8			**(Includes Extra $2,000,000 in Row 29 G&A Expense)**								
9											
10											
11		**Net Cost of a Bare Pole Calculation**						Source			
12											
13	Gross Distribution Plant					6,135,002,143					
14	Gross Pole Investment (Acct. 364)					1,280,325,799					
15	Distribution Plant Accumulated Depreciation					2,404,461,769					
16	Depreciation Reserve (Poles)					501,791,908.8		F14/F13*F15			
17	Gross Plant Investment (Electric)					10,865,724,347					
18	Accumulated Deferred Taxes (Electric)(190, 281-3)					1,646,628,526					
19	Accumulated Deferred Taxes(Accts. 190, 281-3)(Poles)					194,024,891		F14/F17*F18			
20	Net Pole Investment					584,508,999		F14-F16-F19			
21	Appurtenances Factor					0.85		FCC Presumption			
22	Net Pole Investment Allocable to Attachments					496,832,649.27		F20*F21			
23	Total Number of Poles					1,476,313					
24	**Net Cost of a Bare Pole**					**336.5361202**		**F22/F23**			
25											
26											
27	.	**Carrying Charge Calculation**									
28											
29	Total General and Administrative					180,713,850					
30	Gross Plant Investment (Electric)					10,865,724,347					
31	Depreciation Reserve (Electric)					4,033,478,179					
32	Accumulated Deferred Taxes (Electric)(190, 281-3)					1,646,628,526					
33	**Administrative Carrying Charge**					**0.03484905**		F29/(F30-F31-F32)			
34											
35	Account 593 (Maintenance of Overhead Lines)					90,708,036					
36	Investment in Accts. 364,365 & 369					3,124,367,353					
37	Depreciation (Poles) related to Accts. 364, 365 & 369					1,224,518,212		F36/F13*F15			
38	Accumulate Deferred Income Taxes for 364, 365 & 369					473,477,170		F36/F17*F18			
39	**Maintenance Carrying Charge**					**0.063593535**		F35/(F36-F37-F38)			
40											
41	Gross Pole Investment (Acct. 364)					1,280,325,799					
42	Net Pole Investment					584,508,999		F14-F16-F19			
43	Depreciation Rate for Gross Pole Investment					0.0416					
44	**Depreciation Carrying Charge**					**0.09112187**		F41/F42*F43			
45											
46	Taxes (Accts. 408.1 + 409.1 + 410.1 + 411.4 - 411.1)					576,284,758					
47	Gross Plant Investment (Total Plant)					16,274,934,211					
48	Depreciation Reserve (Total Plant)					6,691,199,956					
49	Accumulated Deferred Taxes (Total Plant)(190, 281-3)					2,158,340,987					
50	**Taxes Carrying Charge**					**0.077609998**		F46/(F47-F48-F49)			
51											
52	Rate of Return					0.0806		Latest ROR approved by State PSC			
53	**Return Carrying Charge**					0.0806					
54											
55	**Total Carrying Charges**					**0.3478**		F33+F39+F44+F50+F53			
56											
57											
58		**ANNUAL POLE COST CALCULATION**									
59											
60											
61	**Net Cost of a Bare Pole**					**336.5361202**		F24			
62	**Total Carrying Charges**					**0.347774454**		F55			
63	**Annual Cost Per Pole**					**117.04**		F61*F62			

	A	B	C	D	E	F	G	H	I	J
1				**CABLE-ONLY RATE**						
2				**XYZ Utility (Year-End 2016)**						
3				**(Including Extra $2,000,000 in G&A Expense)**						
4										
5										
6		**Attacher Responsibility Percentage**						Source		
7										
8	Space Occupied				1			FCC Presumption		
9	Usable Space				13.5			FCC Presumption		
10	**Attacher Responsibilty Percentage**				**0.0740741**			E8/E9		
11										
12										
13	**Attacher Responsibility Percentage**					0.07407407		E10		
14	**Net Cost of a Bare Pole**					336.53612		Annual Cost Worksheet, F61		
15	**Total Carrying Charges**					0.34777445		Annual Cost Worksheet, F62		
16	**Cable-Only Rate**					**8.6695**		F13*F14*F15		
17										
18										
19										
20										
21										

EXHIBIT F

PROPOSED BOARD RESOLUTION
(Pole Attachments)

WHEREAS, TVA regulates the retail rates of the Local Power Companies (LPCs) that distribute TVA power and establishes the terms and conditions under which TVA power is sold to ensure that LPC systems are operated for the benefit of the electric consumers and that rates are kept as low as feasible;

WHEREAS, so that electric system assets and funds are not used in a manner that would result in the subsidization of non-electric activities, an LPC's electric system must be appropriately compensated for the use of electric system assets, including use by cable and telecommunication providers making or maintaining wireline attachments on an LPC's electric system poles;

WHEREAS, a memorandum from the Chief Financial Officer and Executive Vice President, Financial Services (CFO), dated January 22, 2016 (Memorandum), a copy of which is filed with the records of the Board as Exhibit _____, recommends that the Board of Directors approve the recommended methodology for regulation of pole attachment rates by adopting the Determination on Regulation of Pole Attachments as described in the Memorandum;

BE IT RESOLVED, that after review of said Memorandum, the Board of Directors finds it to be appropriate and in the interest of TVA to approve the recommended methodology for regulation of pole attachment rates and adopts the Determination on Regulation of Pole Attachments attached to and described in the Memorandum.

RESOLVED further, that the Board hereby authorizes and directs the Chief Executive Officer (CEO), to take all actions necessary or appropriate to implement the Determination on Regulation of Pole Attachments as further described in the Memorandum.

January 22, 2016
Financial Services

Board of Directors

SUBJECT

The Board is requested to approve the recommended methodology for regulation of pole attachment rates by adopting the Determination on Regulation of Pole Attachments set out in Attachment A and further described in this memorandum. The Board is further requested to authorize the Chief Executive Officer (CEO) to take all actions necessary or appropriate to implement the Determination on Regulation of Pole Attachments as described.

BACKGROUND

TVA sells electric power to local power companies that distribute TVA power (LPCs) pursuant to the Property Clause of the Constitution. Specifically, TVA electric power is property of the United States, and Congress has delegated to TVA the authority to manage that property. Through the TVA Act, Congress has vested broad discretion in the TVA Board of Directors in the exercise of their authority to sell surplus power. Section 10 of the TVA Act authorizes the TVA Board:

> ... to include in any contract for the sale of power such terms and conditions, including resale rate schedules, and to provide for such rules and regulations as in its judgment may be necessary or desirable for carrying out the purposes of this chapter ...

TVA is the exclusive retail rate regulator for LPCs that distribute TVA power. Further, through the wholesale power contract with each LPC, TVA seeks to ensure that electric systems are operated for the benefit of electric consumers and that rates are kept as low as feasible. It is important to achieving these objectives that TVA ensure that LPC electric systems are appropriately compensated for the use of electric system assets for non-electric purposes.

Over the last few years, TVA has seen an increased regulatory focus on pole attachment fees in the Valley. For example, in 2012 the Kentucky Cable Telecommunications Association (KCTA) petitioned the Kentucky Public Service Commission (KYPSC) to order that the KYPSC has jurisdiction over the rates charged by TVA LPCs. In 2015, the KYPSC determined that it was preempted from regulating the pole attachment rates charged by TVA LPCs. KCTA has appealed the decision by the KYPSC. Similarly in 2014, an opinion was sought from the Tennessee Attorney General regarding the jurisdiction of the State of Tennessee (State) to regulate the pole attachment rates of TVA LPCs. The Tennessee Attorney General concluded that such regulation by the State is not currently "clearly preempted," but stated that if TVA were to assert its regulatory authority over the rates and revenues of TVA LPCs in a way that directly affected pole attachments, then regulation by the State would likely be preempted.

These and other activities in the Valley led to TVA's reevaluation of the need to refine TVA's regulation of pole attachment rates to ensure that electric systems are being appropriately compensated for the use of electric system assets. Failure to do so has a direct impact on the

retail rates charged by LPCs because electric ratepayers will be forced to subsidize the business activities of those entities attaching to the assets of LPCs for non-electric purposes.

ALTERNATIVES CONSIDERED

TVA's Regulatory Assurance staff (Staff) reviewed information related to pole attachment regulation throughout the country and sought input from LPCs and the Tennessee Valley Public Power Association (TVPPA) on the need for further regulation and suggested methods for such regulation. TVPPA proposed a rate formula to TVA, and after consideration of feedback that was received, Staff developed a draft proposal for refinement of TVA's pole attachment regulation. TVA sought feedback from LPCs on the proposal, and based on that feedback TVA developed the following recommendation. TVA has held webinars and other meetings with LPCs to discuss and solicit input on pole attachment regulation. Feedback from individual LPCs and the TVPPA Board of Directors has been generally supportive of TVA's efforts and the actions recommended.

RECOMMENDED ACTION AND POTENTIAL IMPACTS

It is recommended that the Board approve the methodology recommended by Staff for regulation of pole attachment rates that is further described below by adopting the Determination on Regulation of Pole Attachments set out in Attachment A. A summary of Staff's considerations and the feedback received in developing this recommendation is provided as Attachment B.

After studying several methodologies for calculating pole attachment rates, Staff developed a methodology that provides for the fully allocated cost of the pole and is consequently designed to better protect the electric ratepayer. Under this rate methodology, the pole attachment rate is calculated by first establishing the total annual cost of pole ownership, which includes administration, depreciation, maintenance, taxes, and return on investment (ROI). The total cost is then allocated among pole users based on: the actual number of pole users; an equal allocation of support space among the pole users; an equal allocation of safety space among pole users that are attaching for communication purposes; and an allocation of usable space to each pole user.

The methodology provides for equal sharing of support space among all users, including electric. Safety space, however, is allocated equally among users that are attaching for communication purposes. While Staff had initially developed a methodology that allocated safety space to all users, based on input from TVPPA and LPCs, Staff further evaluated the appropriate allocation of safety space. As noted by the National Electrical Safety Code, the safety space on a pole is for the safety of communication workers. Staff concluded that it is proper to allocate safety space to users that attach for communication purposes, and the methodology is reflected in Attachment A.

Certain assumptions have been used for simplification and ease of administration in developing a fully allocated cost methodology for individual LPCs. The calculation assumes: an average

pole height of 37.5 feet, which is consistent with pole attachment rate formulas used in many jurisdictions; a 15% discount factor to remove items such as cross arms and anchors from pole costs; a uniform ROI equal to 8.5%; and that one foot (or two feet depending on the attacher) of space is occupied by each non-electric attaching party. Space allocation will be determined using the actual number of attaching parties per pole, including the pole owner. TVA may adjust the appropriateness of using assumptions and the assumptions being used from time to time. Any such adjustments will be reported at least annually to the Audit, Risk, and Regulation Committee of the TVA Board.

Some LPCs asked that TVA allow an LPC to apply actual data in place of the other assumptions used in the formula, noting that some LPCs have actual system data that would allow for a more accurate calculation. Staff considers a uniform ROI important to promoting consistency across the Valley, but agrees that it may be appropriate to allow LPCs to use actual system data for average pole height and discount factor. Accordingly, where such data is available and the LPC provides sufficient justification to TVA supporting the use of actual data inputs for both pole height and discount factor assumptions, the LPC may be permitted to use actual data. This is reflected in Attachment A.

Staff completed a preliminary analysis to better understand the potential impacts of the proposed new pole attachment rate methodology. Based on a review of current pole attachment rates charged by LPCs, the mid-point in the Valley is approximately $18. Applying the recommended methodology may result in a mid-point of approximately $30. Although most LPCs are expected to see increased rates, some will see decreases from rates that are currently charged. These impacts will likely change once individual LPC pole accounting data is reconciled and validated by both the LPC and TVA.

Several LPCs expressed concern about the variance from current rates that will be produced by the methodology. While Staff considers these changes necessary to ensure proper cost recovery, Staff also recognizes the need to mitigate impacts of new rates. Accordingly, the recommendation reflected in Attachment A provides for a phase-in period. Further, before an LPC may apply the rate derived from the fully allocated cost methodology, Staff must validate data and approve such rate. Following the Board's adoption of the methodology set out in Attachment A, Staff will evaluate the rates calculated by analyzing each LPC's actual data. It is recommended that the CEO be authorized to approve a mechanism, if needed, to further address LPC rates that fall outside certain statistical parameters. This mechanism would be subject to review by the Audit, Risk, and Regulation Committee of the TVA Board prior to implementation.

It is recommended that the Board authorize and direct the CEO to take all actions necessary or appropriate to implement the Determination on Regulation of Pole Attachments. Further, for purposes of clarity, TVA will develop a contract amendment in form and substance acceptable to the Office of the General Counsel to more specifically incorporate TVA's regulatory control over pole attachment rates into the wholesale power contract.

Staff will continue to work with LPCs and TVPPA to provide for orderly implementation of the pole attachment methodology. All LPCs will be expected to enter into the contract amendment described above as soon as practicable. An LPC may begin using the rate methodology adopted herein as soon as TVA completes an evaluation of and affirms the rate. All LPCs are expected to begin using the new pole attachment rate methodology by January 2017, but no later than January 2018, as described in Attachment A.

Attachments

Attachment A: Determination on Regulation of Pole Attachments
Attachment B: Summary of Considerations and Comments

John M. Thomas III
Executive Vice President and Chief Financial Officer
Financial Services
MR 6 D-C

Attachments
cc (Attachments)
Dwain K. Lanier, MR 6D-C
Daniel P. Pratt, MR 6D-C
Van M. Wardlaw, BR 5D-C
Laura J. Campbell, MK 1A-MET
Jeffrey T. McKenzie, WT 7C-K
EDMS, WT CA-K

Sherry A. Quirk Date

William D. Johnson Date

Tennessee Valley Authority
Determination on Regulation of Pole Attachments
February 2016

Determination By TVA Board

TVA is the exclusive retail rate regulator for local power companies (LPCs) that distribute TVA power. Primarily through the wholesale power contract with each LPC, TVA seeks to ensure that electric systems are operated for the benefit of electric consumers and that electric rates are kept as low as feasible. Ensuring that LPCs are appropriately compensated for the use of electric system assets is important to achieving these goals. Importantly, failure to do so will have a direct impact on retail electric rates because electric ratepayers will be forced to subsidize the business activities of those entities that are utilizing electric system assets. To this end, TVA has evaluated the need to refine its regulation of the rates charged by LPCs where parties such as cable or telecommunication (including broadband) providers make or maintain wireline attachments to electric system assets.

The TVA Board determines it to be appropriate to refine TVA's regulation in this area by identifying the methodology to be used by TVA LPCs in determining pole attachment rates and clarifying TVA's regulatory control over pole attachments within the wholesale power contract between TVA and each LPC.[1]

Methodology

In establishing the formula to reflect the fully allocated cost methodology for each individual LPC, certain assumptions have been used to simplify the calculation. The calculation for each attaching party assumes: an average pole height of 37.5 feet; a 15 percent cross arm discount factor; and allocation of either one foot or two feet of space depending on space occupied by the communication attaching party; and a uniform return on investment (ROI) equal to 8.5%.

A more detailed explanation of the components in the pole attachment formula is located in Appendix 1, and an example of the data used in the formula is located in Appendix 2. The formula to be used by all LPCs in establishing pole attachment rates is:

Pole Attachment Rate = (Space Allocation) x (Net Cost of Bare Pole) x (Carrying Cost)

Space Allocation - The percentage share of space based upon amount, types, and purposes of space on the pole. Space is allocated based on: the actual number of pole users; an equal allocation of support space among the pole users; an equal allocation of safety space among pole users that are attaching for communication purposes; and an allocation of usable space to each pole user. (See Appendix 3)

[1] Nothing herein is intended to apply to reciprocal or joint use agreements at this time, although TVA expects that appropriate costs will be borne by all participants in these reciprocal or joint use agreements.

- **Net Cost of Bare Pole** – The net pole investment, after applying Discount Factor, divided by the number of poles.
- **Carrying Cost** - Annual operating expenses associated with pole ownership. (Administrative Charge, Maintenance Charge, Depreciation Charge, and Taxes as a percent of net plant plus the Return on Investment)

It is recognized that there may be circumstances in which it is appropriate for LPCs to use actual system data where such data is available. Accordingly, if an LPC provides sufficient justification to TVA supporting the use of actual data inputs for both average pole height and discount factor, TVA may approve the use of such data. Further, TVA may re-evaluate the assumptions used in the formula periodically as well as the appropriateness of using assumptions or actual data in the formula and make adjustments as deemed appropriate. Any such adjustments will be reported at least annually to the Audit, Risk, and Regulation Committee of the TVA Board.

Before an LPC may apply the rate derived from the fully allocated cost methodology, TVA must validate data and approve such rate. Thereafter, on an annual basis, TVA will evaluate and approve the rate to be used. In the event that the methodology produces a rate for an individual LPC that TVA determines to be outside certain statistical parameters, an additional level of review will be required for such rate.[2] Recognizing that LPCs will need a period of time to phase-in any necessary changes to pole attachment rates to mitigate the effect of any significant changes in rates, TVA will work with LPCs to implement the rates derived from the methodology adopted herein using the attached Guideline Adjustment Scale (See Appendix 4) to provide for a transition period to the new rates.

Once the LPC begins applying the rate derived from the fully allocated cost methodology to its arrangements with communication attachers, such rate should be properly adjusted either by using the Handy Whitman Index or by applying the updated TVA approved pole attachment rate. TVA also expects pole attachment counts to be updated on a reasonable cycle in order to ensure accurate revenue collection to cover costs.

Incorporation into Wholesale Power Contract

For purposes of clarity, each LPC is expected to enter into an agreement with TVA as soon as practicable to more specifically incorporate TVA's regulatory control over pole attachment rates into the wholesale power contract. An LPC may begin using the rate methodology adopted herein as soon as TVA completes an evaluation of and affirms the rate. All LPCs are expected to begin using the new pole attachment rate methodology by January 2017 for all new and renewal contracts. In the event that individual LPCs' circumstances warrant, TVA may extend the time for implementation to no later than January 2018. TVA will develop guidance for LPCs to address the application of new rates where existing contracts contain such provisions as automatic renewal, extension, or re-opener provisions.

[2] Following the Board's adoption of the methodology, TVA Staff will evaluate the rates calculated by analyzing each LPC's actual data. If it is determined that there is a need to do so, the CEO is authorized to approve a mechanism to further address LPC rates that fall outside certain statistical parameters, subject to review by the Audit, Risk, and Regulation Committee of the TVA Board prior to implementation.

Attachment A - Appendix 1

Pole Attachment Formula Components

Definitions: For purposes of this Exhibit, the following definitions shall apply, and all financial data have been obtained from the local power companies (LPCs) most recent Annual Report to the Tennessee Valley Authority:

"**Administrative Charge**" shall mean the total of all of the LPCs' administrative and general expenses shown in all of the Sample LPCs' FERC Account 625 (which is a totaling account for FERC Accounts 920, 921, 923-926, 929 & 930) divided by the total of all of the LPCs' electric plant, net of accumulated depreciation.

"**Carrying Costs**" shall mean the sum of the Administrative Charge, the Depreciation Charge, the Maintenance Charge, the Rate of Return, and the Tax-Equivalent Charge, all of which shall be stated as a percentage of net plant.

"**Depreciation Charge**" shall mean the median depreciation rate for the LPCs' multiplied by the quotient of the LPCs' gross FERC Account 364 plant divided by the LPCs' net FERC Account 364 plant.

"**Maintenance Charge**" shall mean the three year average of the LPCs' FERC Account 593 plant expenses divided by the sum of the Sample LPCs' plant shown in FERC Accounts 364, 365 and 369, net of accumulated depreciation.

"**Net Cost of Bare Pole**" shall mean the pole investment as shown in the LPCs' FERC Account 364, net of accumulated depreciation, multiplied by 1 minus the discount factor divided by the total number of LPC utility poles included in FERC Account 364.

"Discount Factor" represents the percentage of distribution pole plant items (only) in FERC Account 364 excluding cross arms, anchors, etc.

"**Return on Investment**" shall mean eight and a half percent (8.5%).

"**Space Allocation**" is based upon a standard average 37.5 foot pole and the actual number of parties per pole, including the pole owner.

"**Tax and Tax-Equivalent Charges**" shall mean the quotient of the LPCs' tax and/or tax-equivalent payments shown in FERC Account 408.1 divided by all of the LPCs' electric plant, net of accumulated depreciation.

Attachment A - Appendix 2
Pole Attachment Formula Example

Net Cost of Bare Pole	$	278.93	**(a)**
Carrying Charge		26.61%	**(b)**
Annual Cost of Ownership (a*b=X)	$	74.22	**X**
Space Allocation (% of Total Pole)			
Fully Allocated Cost Formula (B+(1/(A-1)*C)+(1/A)*E)/(D+E)		28.44%	**Y**
Maximum Rate per Pole			
Fully Allocated Cost Formula (X*Y=Z)	**$**	**21.11**	**Z**

Space Allocation: Assumptions include 3 entities attaching to 37.5' pole.

(A) Number of Attaching Parties	3	
(B) Space Occupied by Attaching Party	1	feet
(C) Safety Space	3.33	feet
(D) Total Usable Space	13.5	feet
(E) Total Support Space (6' Ground + 18' Clearance)	24	feet

Net Cost of a Bare Pole:

(1) Gross Pole Investment (FERC A/C 364)	$	7,545,190.30
(2) Depreciation Reserve (FERC A/C 108.364)	$	1,972,753.62
(3) Gross Plant Investment (FERC A/C 364, 365,& 369)	$	14,998,392.35
(4) Net Investment (Poles) (L(1)-L(2))	$	5,572,436.68
(5) Net Investment (Bare Pole) (L(4) x .85)	$	4,736,571.18
(6) Number of Poles		16,981
(7) Net Cost of a Bare Pole (L(5)/L(6))	**$**	**278.93** (a)

Carrying Charge:

(1) Administrative Charge	3.26%
(2) Maintenance Charge	8.56%
(3) Depreciation Charge	4.06%
(4) Taxes	2.23%
(5) Return on Investment	8.50%
(6) Total Carrying Charge Rate (L(1)+L(2)+L(3)+L(4)+L(5))	**26.61%** (b)

Administrative Charge

(1) A&G Expense (TVA AR Rpt item 625 & a/c 935 -page 6)	$ 1,321,181.13
(2) Net Plant Investment (TVA AR Rpt item 6-Page 1)	$ 40,478,879.32
(3) Administrative Charge (L(1)/L(2))	**3.26%**

Maintenance Charge

(1) Maintenance Exp.(Three yr avg. -TVA AR a/c 593-Page 6)	$ 837,521.00
(2) Net Investment (Pole Accounts 364, 365 & 369)	$ 9,779,762.19
(3) Maintenance Charge (L(1)/L(2))	**8.56%**

Depreciation Charge

(1) Depreciation Rate (TVA AR Rpt -page 11)	3.00%
(2) Gross Pole Investment (Account 364)	$ 7,545,190.30
(3) Net Pole Investment (Account 364)	$ 5,572,436.68
(4) Depreciation Charge (L(1) x (L(2)/L(3))	**4.06%**

Taxes

(1) Total Current and Deferred Taxes (TVA AR a/c 408 Property -pg 29)	$ 902,919.19
(2) Net Plant Investment	$ 40,478,879.32
(3) Taxes (L(1)/L(2))	**2.23%**

Return on Investment

Authorized by Regulatory Authority	**8.50%**

Attachment A - Appendix 3
Space Allocation Illustration:
The Fully Allocated Cost Method

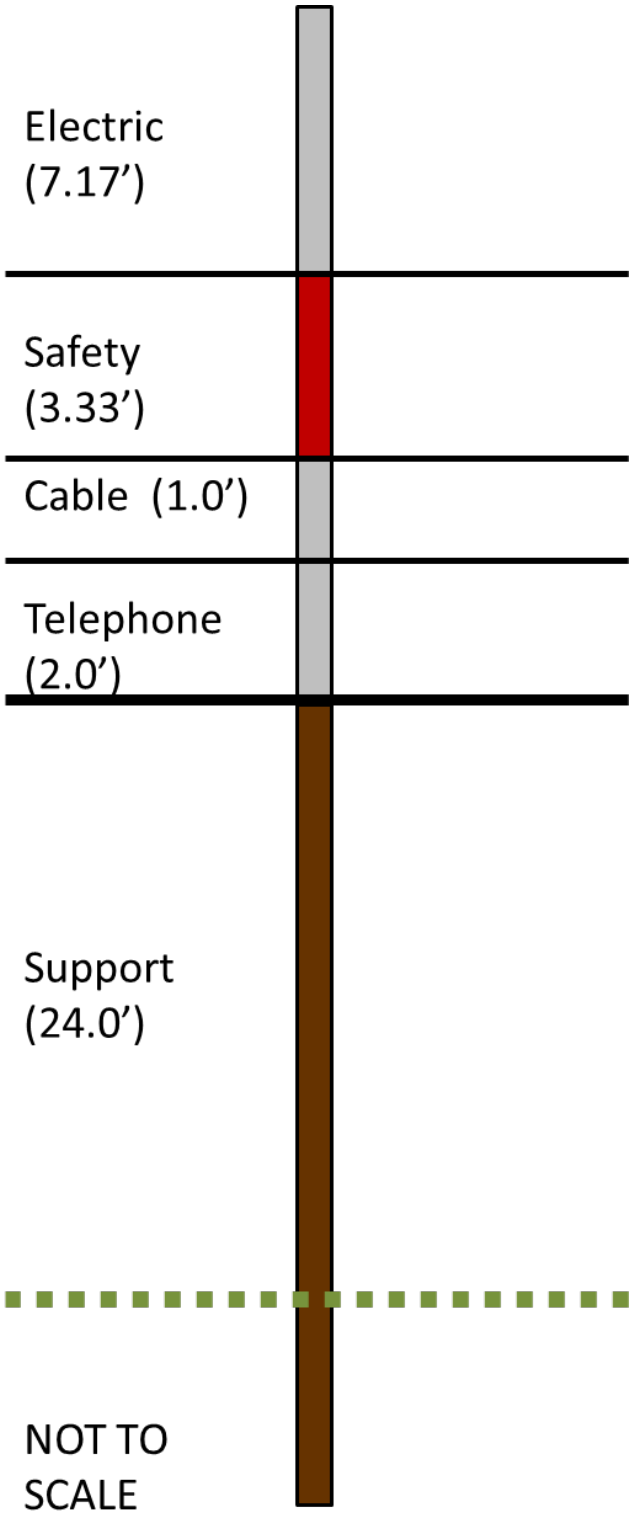
Allocates usable space

Equal sharing of safety space among all users attaching for communication purposes

Equal sharing of support space among all users including electric

Space allocation is 28.44% based on assumed 37.5 foot pole with 3 average users

Results in a fair allocation of costs among pole owner and pole users



Guideline Adjustment Scale:

		Monthly - Adjustment (+/-)			
Dollar Variance	**Transition Period ***	**Low**		**High**	
$ 0 - $ 5	Immediate action	$	-	$	0.42
$ 6 - $10	No more than 2 years	$	0.21	$	0.42
$11 - $20	No more than 3 years	$	0.31	$	0.56
$21 - $30	No more than 4 years	$	0.44	$	0.63
$31 or greater	No more than 5 years	$	0.52	$	> 0.52

* Transition period begins upon effective date of new or updated contract with attaching party.

Attachment B

Summary of Consideration and Comments

Related to Recommendation to TVA Board February 2016

To understand the proposal being made to the TVA Board, the following summary is being provided to address: 1) pole attachment rate methodologies, 2) the scope of pole attachment regulation, and 3) comments TVA received regarding such regulation.

I. METHODOLOGIES

TVA's Regulatory Assurance staff (Regulatory Staff) reviewed several methodologies by which other regulatory bodies set pole attachment rates. After such review, Regulatory Staff focused on four methodologies. Generally, all formulas for calculating pole attachment rates are the product of space factor and annual pole cost. Space factor, which establishes the percentage of annual pole costs that each user of the pole will bear, is the primary driver in the differences between formulas.

A. The Federal Communications Commission Method (FCC):

The FCC has established formulas for determining pole attachment rates for cable and telecommunication attachments for investor-owned utilities. The FCC uses separate formulas for cable and telecommunication service attachments. The FCC rate for cable service attachments results in the lowest rate, requiring the attacher to typically only pay a rate that amounts to recovery of approximately 7.4% of the annual pole cost. The traditional telecommunication formula produces a rate that is typically 16.9% of the annual pole cost in non-urban areas and 11.2% in urban areas. In order to further the FCC's goal of "promoting consistent, cross-industry attachment rates that encourage deployment and adoption of broadband Internet access services,"[1] the FCC, in recent years, has taken steps to "bring cable and telecom rates for pole attachments into parity at the cable-rate level" by applying certain allocators that serve to reduce recovery of capital and operating costs. The FCC does not have jurisdiction to regulate the pole attachment rates of municipal and cooperative systems.

After careful review, Regulatory Staff recognized that because the FCC formulas are designed to further the policy goal of encouraging broadband investment, particularly in rural areas, they do not appropriately compensate the electric utility for the attachment. Unlike the FCC, however, TVA is charged with keeping electric rates as low as feasible, and ensuring that electric ratepayers do not subsidize other business activities is important in achieving this objective. The manner in which the FCC methods determine space allocation on poles requires pole owners to absorb most of the capital and operating costs of a pole on the assumption that pole owners do not take the interests of attaching entities into account in making their capital

[1] *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245, GN Docket No. 09-51, Order on Reconsideration, (released Nov. 24, 2015) https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-151A1.pdf

investment decisions. This is particularly true in the cable formula, which only accounts for the space occupied on the usable space of a pole. Regulatory Staff disagrees with this assumption.

TVA's recommended methodology differs from the FCC telecommunication formula in determining the space factor in several respects. Safety space, which is an amount of unused space that is required on utility poles to safely separate electric facilities from communication facilities, is assigned to the electric pole owner even though the safety space is solely for the safety of communication workers. Regarding support space, the FCC telecommunication method assigns 1/3 of the support space to the pole owner, which is the electric utility, and then the remaining 2/3 of the support space is equally shared among all attaching entities, which also includes the electric utility. The recommended TVA methodology allocates all of the safety space to the communications attachers and equally allocates support space among all attachers, including electric.

B. The American Public Power Association Model (APPA):

The APPA has created a model licensing agreement that covers attachments to municipal utility poles, ducts, and conduits owned by municipal electric utilities and a shared-cost formula for calculating rates. The APPA model is designed to provide the utility with full recovery of its expenses and fair compensation for use of its poles, and Regulatory Staff was able to utilize many components from the APPA model. The primary difference between the TVA proposed methodology and the APPA methodology is in allocation of safety space.

In determining the space factor, the APPA model allocates safety space equally among all pole users, including electric. Like the APPA model, TVA plans on employing assumptions for average pole height and discount factor, but with flexibility to allow the use of actual data when it is available and otherwise justified.

C. "Analysis of Pole Attachment Rate Issues in Tennessee," prepared by Tennessee Advisory Commission on Intergovernmental Relations (TACIR[2]):

In 2007, the TACIR commissioned a study of proposed legislation in Tennessee that addressed the issue of pole attachments by cable and telecommunication providers to the poles owned by cooperative and municipally owned utilities. The TACIR report collected information about methods used by electric providers in Tennessee, and it provided a comparison of the FCC cable formula, the FCC telecommunication formula, and a "full-cost" methodology utilized by some electric utilities. The full cost allocation method reviewed in the TACIR report most closely met the objectives of TVA's pole attachment regulation. For a three-party pole, this method generally results in a space factor of 28.4%, which allocates safety space to non-electric users and provides for equal sharing of support space. This is consistent with the final TVA recommendation.

[2] Available at https://www.tn.gov/assets/entities/tacir/attachments/pole_attachment_rate_issues.pdf

D. Tennessee Valley Public Power Association (TVPPA):

In response to a request from TVA, TVPPA proposed a methodology for TVA to consider in its regulation of pole attachment rates. (See Appendix 1) Like the formula reviewed in the TACIR report, TVPPA proposed a methodology that provides for an equal allocation of support space, an equal allocation of safety space to all communication users, and an allocation of usable space to each pole user. Because Regulatory Staff concluded that the methodology proposed by TVPPA best reflects full cost allocation, the final recommendation is largely consistent with the TVPPA proposal. It does, however, differ in a few respects. Notably, the Regulatory Staff recommendation includes an 8.5% ROI instead of 10%, and the TVA methodology uses the actual number of pole attachers instead of an assumption of three per pole.

II. SCOPE

The scope of pole attachment regulation by many regulatory bodies is broader than the regulation that TVA is seeking to refine with this current effort. Regulatory Staff considered whether such regulation should include joint use agreements or other similar reciprocal agreements with telephone companies that also own poles within LPCs' respective service areas. Because joint use and reciprocal arrangements provide benefits (from reciprocal use of poles) that are not present in non-reciprocal arrangements, the rate methodology under consideration was not determined at this time to be well-suited to address joint use and other reciprocal arrangements.

Further, Regulatory Staff noted that many regulatory bodies not only regulate the rate for pole attachments but also the terms and conditions for pole attachment, such as dismantling fees and penalties. Regulatory Staff contemplated a similar regulatory scope but determined that regulating beyond the rate is neither feasible nor appropriate at this time.

III. COMMENTS

A. Solicitation of Input

On August 12, 2015, TVA sent a letter to LPCs and the Tennessee Valley Public Power Association (TVPPA) indicating that TVA was evaluating further refinement of TVA's regulation of pole attachment rates. TVA invited recommendations on a pole attachment methodology. (See Appendix 2) TVPPA recommended the methodology described above, and TVA reviewed the TVPPA recommendation along with research conducted by Regulatory Staff. On November 10, 2015, TVA provided to all LPCs for input a draft recommendation addressing refinement of TVA's regulation of pole attachment rates and setting out a proposed methodology. (See Appendix 3)

TVA conducted a series of webinars and meetings with LPCs and received feedback from many of them and TVPPA. Largely, that feedback fell into three broad categories: methodology; changes in rates/implementation; and scope of regulation. Regulatory Staff considered the feedback in developing the final recommendation made to the TVA Board. Below is a summary of the Regulatory Staff's consideration of the feedback received.

B. Summary of Feedback

1. Methodology

TVA's initial draft recommendation provided for the safety space on an electric pole to be allocated equally among all attachers, including electric. TVA specifically asked for input on this issue, and many LPCs expressed concern about the appropriateness of allocating any of this space to electric. While some LPCs supported the equal allocation of safety space, almost all that commented on this issue noted that safety space is only required for the protection of communication workers. The National Electrical Safety Code recognizes this space as being a "Communication Worker Safety Zone," and many LPCs urged TVA to recognize this by allocating all of the safety space to non-electric attachers. Regulatory Staff agrees that safety space should be allocated to the communications attachers and this is reflected in the ultimate recommendation to the TVA Board.

For simplification and ease of administration, the methodology developed by Regulatory Staff for calculation of pole attachment rates includes certain assumptions. Regulatory Staff attempted to balance rate calculations for each LPC with concerns about cost and other resource constraints associated with compiling and validating individual data components that may not be easily available. The initial draft that was provided to LPCs for input included assumptions for pole height, discount factor, return on investment, space occupied per attacher, and number of attachers per pole. Feedback on each of these is provided below:

- Pole Height – Regulatory Staff's initial draft recommendation assumed a pole height of 37.5 feet, which is consistent with the assumption included in pole attachment rate formulas used in many jurisdictions. Several LPCs noted that pole heights vary significantly and questioned whether actual pole height data should be used. Some expressed concerns about using such assumptions since some LPCs operate and maintain an electric system with an average pole height greater than 37.5 feet and some LPCs may be lower. LPCs also indicated that utilizing each LPC's actual average pole height will produce a more accurate rate for that utility. While Regulatory Staff considers pole height to be an area where it is appropriate to utilize an assumption, the final recommendation to the TVA Board allows for LPCs to use actual data for both pole height and discount factor when requested by the LPC and verified by TVA as appropriate.
- Discount Factor – In order to determine the cost of a pole, the net pole cost as reflected in the LPC's financial records is reduced by an amount determined to represent costs associated with items such as cross arms and anchors because these items are not used by communication attachers. Consistent with some of the methodologies reviewed, Regulatory Staff considers 15% of the net pole costs to be a fair representation of these costs. Some LPCs suggested that it would be more appropriate to permit LPCs to use their actual system data for this input into the formula. As explained above, this is reflected in the final recommendation.
- Return on Investment – Staff has recommended that the methodology include an 8.5% return on investment (ROI). Several LPCs questioned the use of a standard ROI instead

of allowing for the use of individual LPC calculations of the cost of capital. Some suggested that 8.5% is too high, and others thought it is too low. Rather than using an individualized ROI that is calculated for each LPC system, Regulatory Staff considers a uniform ROI to be appropriate in order to promote consistency across the Valley. The assumption included in the methodology was calculated by TVA's Treasury Staff utilizing 2014 LPC financial data. TVA provided additional information to LPCs to describe the manner in which TVA concluded that 8.5% represents a reasonable weighted average cost of capital for LPCs as reflected in the final Regulatory Staff recommendation. (See Appendix 4)

- Space Occupied per Attacher – The initial draft recommendation included an assumption that one foot of space is occupied by each attaching party. Some LPCs noted that the amount of space used by an attacher can vary depending upon the type of attachment and questioned whether different assumptions should be used. To address this, Regulatory Staff modified the formula to calculate a rate for either one foot of space or two feet of space. This is reflected in the final recommendation to the TVA Board.
- Number of Attachers per Pole – Regulatory Staff's initial draft recommendation utilized an assumption of three attachers per pole in determining space allocation. Regulatory Staff considered this to be a reasonable average to use across the Valley, and this assumption is consistent with some of the other methodologies that were reviewed. Several LPCs provided information about the actual number of attachers on their system and questioned the use of an assumption instead of actual data. This feedback increased TVA's level of confidence that LPCs have the data available to determine the actual number of attachers. In the final recommendation to the TVA Board, space allocation will be determined using the actual number of attachers on the poles.

Tax-equivalent charges directly paid by LPCs are included in determining the carrying costs component of the proposed formula. Some LPCs suggested that 5% of the LPC power costs should also be added to their annual pole costs because LPC wholesale rates include an amount that represents payments paid by TVA to state and local governments in-lieu-of taxes (PILOT). Regulatory Staff does not consider it appropriate to include these power costs because they do not directly apply to the cost of the pole asset.

2. Change in Rates and Implementation Issues

As LPCs evaluated the rates for their own systems using the methodology being proposed to the TVA Board, many raised concerns about both the variance from current rates and the appropriate way to implement the rates. Several LPCs noted that their own rates are likely to increase based on a preliminary review of the rate methodology. They expressed concern about the reaction of current attachers to these increases and suggested that this could result in legal challenges and collection problems. Some LPCs suggested that it may be appropriate to cap the rates produced by the methodology or to otherwise provide for some flexibility in determining the appropriate rate for an LPC. For example, one LPC questioned whether TVA would allow an LPC to charge the Valley-wide average pole rate or a rate that is within a certain band of the Valley-wide average pole rate.

While Regulatory Staff considers it necessary for the TVA Board to adopt a methodology that ensures appropriate cost recovery for the use of electric system assets, Regulatory Staff recognizes the need to mitigate some of the impacts associated with the new rates. Accordingly, where rates are determined to be outside certain statistical parameters an additional level of review will be required. Following the Board's adoption of a methodology, Regulatory Staff will evaluate and analyze the rates calculated by applying each LPC's actual data to the methodology. The recommendation being made to the TVA Board provides for TVA's Chief Executive Officer (CEO) to approve a mechanism to further address LPC pole attachment rates that fall outside certain statistical parameters.

Regulatory Staff is also recommending a phase-in approach to implementing new pole attachment rates. This is designed to provide a period of time for the LPC and attaching parties to adjust to changes in rates calculated by the new methodology. TVA received many questions related to implementation and TVA's expectations related to new and existing contracts. Regulatory Staff believes that the nature of the issues raised is such that they can be resolved through continued discussion between TVA and LPCs.

3. Scope of Recommendation

Several LPCs suggested that TVA's regulatory focus should extend beyond the rates charged for attachments. For example, some suggested that TVA should authorize punitive actions to be taken for certain actions, such as failure to pay in a timely manner and failure to remove attachments. Some LPCs noted that certain actions by attaching parties can create safety and other concerns for the electric department. Some also suggested that TVA should develop regulations or guidance to address things such as non-payment, late fees, back-billing for unreported attachments, contractual issues, and enforcement of new rates.

Regulatory Staff considers these issues to be outside the scope of the present effort and is not making any recommendations to the TVA Board at this time. Regulatory Staff will continue to work with LPCs on issues related to pole attachments and evaluate the appropriateness of further regulation.

Tennessee Valley
Public Power Association, Inc.

PO Box 6189
Chattanooga, TN 37401-6189
423.756.6511 • Fax: 423.267.2280
www.tvppa.com

October 8, 2015

Ms. Jennifer Brogdon
TVA Regulatory Assurance
1101 Market Street MR 6D
Chattanooga TN 37402

Dear Ms. Brogdon:

As you know, the Board of Directors of the Tennessee Valley Public Power Association (TVPPA) and various TVPPA committees have been evaluating ways in which TVA could more directly regulate pole attachment rates for TVPPA member systems. While pole attachment rates are already within TVA's regulatory oversight, this approach would provide a more specific framework for evaluating and regulating these rates.

The TVPPA Board of Directors discussed this matter at its September 14, 2015 meeting. At that meeting, the Board of Directors unanimously approved some pole cost calculation and cost allocation principles for recommendation to TVA based upon the work of the TVPPA Joint Use Committee and the TVPPA Regulatory Committee. TVPPA has developed a proposed Rate Formula based upon this methodology.

We have attached an overview of the proposed Rate Formula as Exhibit A. Exhibit B contains more detailed information on the Rate Formula. TVPPA submits that the Rate Formula provides a rate methodology that appropriately shares costs of pole ownership between local power companies and the parties that utilize their poles. The Rate Formula calculates the total annual cost of pole ownership, including administration, depreciation, maintenance, taxes and payments in lieu of taxes, cost of capital and a rate of return, and then allocates that total cost among pole users based on an assumed system average number of pole users. The allocation methodology provides for an equal allocation of support space on the pole among all pole users, an equal allocation of safety space on the pole among pole users other than the electric system, and an allocation of usable space to each pole user.

As you will note, TVPPA suggests that this formula should be limited to regulation of rates included in license agreements between local power companies and third parties making or maintaining wireline attachments in the communications space on the local power companies' poles. Today, local power companies typically operate under long-standing joint use arrangements or other similar reciprocal agreements with telephone companies that also own poles within the local power companies' respective service areas. This regulatory policy is not intended to apply to such current or future joint use arrangements.

The TVPPA Board recommends that TVA adopt a transition period that will give local power companies sufficient time to compile, review and, if necessary, reconcile their pole plant accounting records in order to capture the appropriate costs of ownership. This transition period should also allow local power companies sufficient time to phase in any necessary changes to their pole attachment rates to mitigate any significant changes in rates – positive or negative – on TVPPA member systems and the parties that utilize their poles. To provide greater predictability and stability for this rate structure, TVPPA further submits that TVA should allow local power companies to use plant account data from multiple years where necessary to normalize a local power company's plant costs; and TVPPA requests that TVA allow local power companies to utilize a generally accepted index, such as the Handy-Whitman Index, to adjust costs on intervals not to exceed five (5) years.

The transition plan will play a critical role in ensuring the success of this more detailed regulatory structure, and TVPPA would welcome the opportunity to discuss transition issues in greater detail with TVA. The TVPPA Joint Use and Regulatory Committees have a wealth of knowledge on this topic and will be valuable resources to TVA in this process.

We appreciate the opportunity to work with you and others at TVA on this issue. The TVPPA Board, its Committees, its staff and I will be available at your convenience to discuss next steps in this process.

Sincerely,

Jack W. Simmons
President & CEO

EXHIBIT A

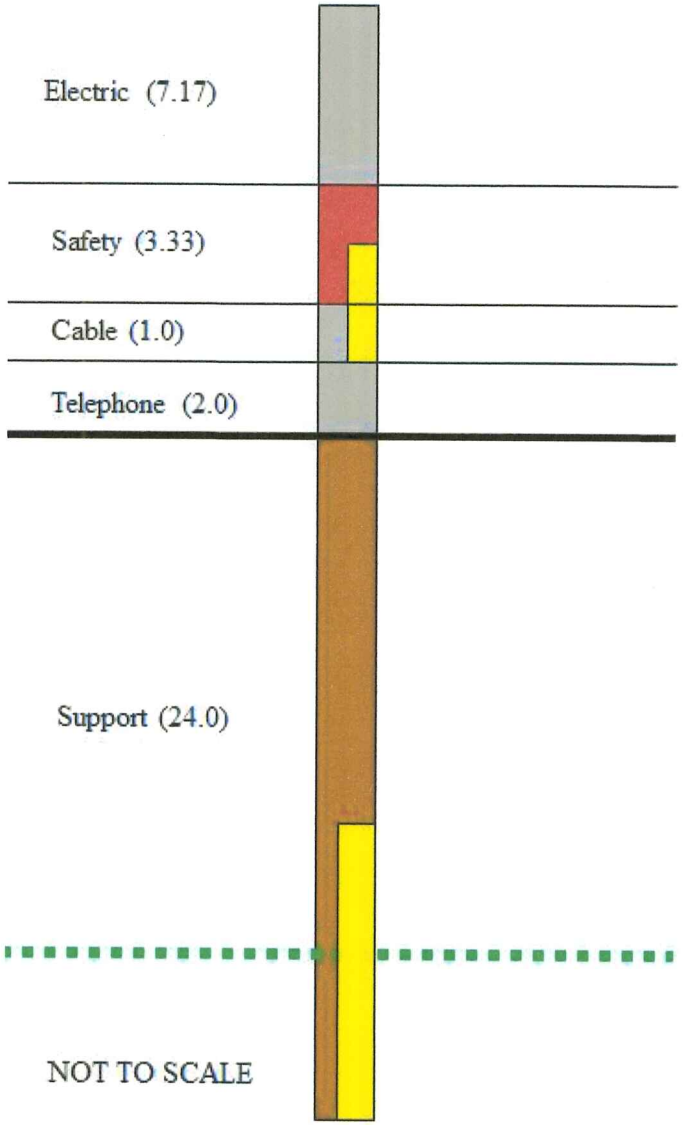
Pole Attachment Rate Formula

Attachment Rate	=	Pole Cost	*	Carrying Costs	*	Space Allocation

- Pole cost = Net cost of a bare pole (the average investment per pole net of depreciation)
- Carrying costs = Annual operating expenses associated with pole ownership
  - Administrative
  - Maintenance
  - Depreciation
  - Taxes and in lieu of tax payments
  - Cost of capital and rate of return
- Space allocation = share of costs based upon amount of space on a pole

EXHIBIT A

Space Allocation: The Fully Allocated Cost Method



- The fully allocated cost method allocates:
  - Usable Space
  - Equal sharing of Safety Space with communications attachers
  - Equal sharing of Support Space with all users (including local power company)
- Space Allocation: 28.44%, based upon an assumed 37.5' pole with 3 average users
- This allocation method results in a more equal allocation of costs among the pole owner and pole users

Attachment B - Appendix 1

EXHIBIT B

Rate Formula

1. **Attachment Rate Calculation**. A local power company (or "LPC") will use the following formula for calculating a cost-based pole attachment rate:

Attachment Rate = Pole Cost * Space Allocation * Carrying Costs

2. **Definitions**. For purposes of this Exhibit, the following definitions shall apply, and an LPC shall calculate the Pole attachment rate financial data drawn from the LPC's Annual Report filings with TVA:

a. "Administrative Charge" shall mean the total of all of the LPC's administrative and general expenses associated with ownership of its overhead plant, including without limitation those expenses shown in the LPC's FERC Account 625 (which is a totaling account for FERC Accounts 920, 921, 923-926, 929 & 930) divided by the total of all of the LPC's electric plant, net of accumulated depreciation.

b. "Carrying Costs" shall mean the sum of the Administrative Charge, the Depreciation Charge, the Maintenance Charge, the Rate of Return, and the Tax-Equivalent Charge, all of which shall be stated as a percentage of net plant.

c. "Depreciation Charge" shall mean the depreciation rate for the LPC's pole plant multiplied by the quotient of the LPC's gross FERC Account 364 plant divided by the LPC's net FERC Account 364 plant.

d. "Maintenance Charge" shall mean the total of all of the LPC's maintenance expenses associated with ownership of its overhead plant, including without limitation the LPC's FERC Account 593 plant expenses divided by the sum of the LPC's plant shown in FERC Accounts 364, 365 and 369, net of accumulated depreciation.

e. "Pole Cost" shall mean eighty-five percent (85%) of the pole investment as shown in the LPC's FERC Account 364, net of accumulated depreciation, divided by the total number of LPC utility poles included in FERC Account 364.

f. "Rate of Return" shall mean ten percent (10%).

g. "Space Allocation" shall mean twenty-eight and 44/100 percent (28.44%), which is based upon an average 37.5 foot pole and an average of three pole users per pole, including the pole owner.

h. "Tax and Tax-Equivalent Charges" shall mean the total of all of the LPC's tax and tax equivalent charges associated with ownership of its overhead plant, including without limitation the quotient of the Sample LPCs' tax and/or tax-equivalent payments shown in FERC Account 408.1 divided by all of the Sample LPCs' electric plant, net of accumulated depreciation.

3. **Applicability.** The Rate Formula is limited to regulation of rates included in license agreements between LPCs and third parties making or maintaining wireline attachments in the communications space on the local power companies' poles. As of the date of adoption of this policy, LPCs typically operate under long-standing joint use arrangements or other similar reciprocal agreements with telephone companies that also own poles within the local power companies' respective service areas. Those agreements provide for a different allocation and sharing of operating and financial responsibilities between the parties. While a LPC is not precluded from using this rate policy for joint use agreements, nothing in this rate policy is intended to apply to such current or future joint use arrangement.

Tennessee Valley Authority, 1101 Market Street, MR 6D-C, Chattanooga, Tennessee 37402-2801

August 12, 2015

Dear :

At the February 5, 2014, TVPPA Regulatory Committee meeting, TVA President and CEO Bill Johnson stated that in light of increased regional regulatory focus on pole attachment fees, TVA will evaluate whether further refinement of its regulation of Local Power Company (LPC) pole attachment rates is needed. TVA, pursuant to the TVA Act, has the exclusive authority to regulate retail rates and service practices of LPCs, including establishing terms and conditions under which TVA power is resold. TVA has a duty to ensure that electrical power is supplied at the lowest feasible cost, and this requires that the electric system is appropriately compensated for the use of electric system assets. To this end, in accordance with Mr. Johnson's directive, TVA is further analyzing the pole attachment charges throughout the Valley to determine whether current practices ensure appropriate recovery so that ratepayers are charged costs properly assigned to their electric system.

TVA appreciates the efforts by TVPPA's Joint Use Committee, on behalf of the TVPPA membership, in studying pole attachment rate practices at TVA's request. We look forward to the Committee making a recommendation to TVA on a fair and consistent pole attachment cost recovery methodology. Given that any regulatory policy changes in pole attachment regulation will impact many, if not all, LPCs, TVA encourages TVPPA's and LPCs' engagement and input on this matter. If, as a result of these efforts, TVA staff concludes that refinements to TVA's pole attachment regulation are necessary or desirable, we expect to make such a proposal to the TVA Board at its February 2016 meeting. In order to provide adequate time for review and consideration of feedback from all 155 LPCs, the following preliminary timeline has been established:

- August to September 2015 - TVA continues to coordinate with TVPPA Joint Use Committee and solicits input from LPCs. Send all feedback to Barry Barnett at jbbarnett@tva.gov.
- September 2015 - Date by which TVA expects a recommendation from LPCs and TVPPA
- September 2015 - TVA completes draft recommendation and provides to TVPPA and LPCs
- October 2015 to November 2015 - TVA solicits feedback from LPCs and TVPPA on TVA's draft recommendation
- January 2016 - TVA finalizes recommendation for TVA Board action Sincerely,

Jennifer Brogdon
Director
Regulatory Assurance

Attachment B - Appendix 3

Tennessee Valley Authority, 1101 Market Street, MR 6D-C, Chattanooga, Tennessee 37402-2801

November 10, 2015

Dear TVA Local Power Company:

TVA has been reviewing its regulation of pole attachment rates. We appreciate the local power companies (LPCs) who responded to our August 12 request and provided input to TVA on an appropriate and consistent cost recovery methodology. TVA also appreciates the collaborative efforts of TVPPA and the Joint Use Committee who, on behalf of its members, studied pole attachment rate practices and made a proposal to TVA.

TVA has incorporated feedback from LPCs and TVPPA in developing the enclosed pole attachment rate methodology. Information is provided on the scope, methodology, and implementation plan.

So that you can fully consider TVA's recommendation, I am enclosing a rate calculation template to assist you in calculating the pole attachment rate that would be derived from the formula proposed in TVA staff's recommendation if it is ultimately adopted by the TVA Board. An excel spreadsheet version will be e-mailed to you for your use. If you need assistance with the template, please contact Laura McDade at 423-751-2474 or ldmcdade@tva.gov.

TVA plans to present a final recommendation to the TVA Board at the February 2016 meeting. As you will see in the enclosed recommendation, TVA is specifically seeking additional input on the allocation of safety space to pole users. Please submit your input on TVA's Staff Recommendation to Barry Barnett at 865-632-2107 or jbbarnett@tva.gov. To allow adequate time for TVA's review and consideration, please provide your feedback on this recommendation by November 30. Please note that a webinar is scheduled Thursday, November 19 from 2:00 p.m. until 4:00 p.m. (CT) to provide an opportunity for more discussion.

In order to better analyze pole attachment rates, TVA would appreciate current pole attachment rate information from you. Your assigned TVA Distributor Assurance field accountant will contact your accountant for information in the coming days. If you have any questions, please contact me at 423-751-8397 or a member of the Regulatory Assurance staff.

Sincerely,

(Original Signed By):

Jennifer Brogdon
Director
Regulatory Assurance

Enclosures

Tennessee Valley Authority

TVA Staff Recommendation for Refining Pole Attachment Rate Regulation

Provided For Input

November 10, 2015

Scope

Tennessee Valley Authority (TVA) is the exclusive retail rate regulator for local power companies (LPCs) that distribute TVA power. One primary objective of TVA is to ensure that power is sold at rates as low as feasible, and accordingly, LPC electric systems must be appropriately compensated for the use of electric system assets for non-electric purposes. As part of approving each LPC's electric rates, TVA evaluates each LPC's revenue requirements which, among other things, include revenue from pole attachment fees.

TVA staff's recommendation for refining its pole attachment regulation (Staff Recommendation) is being provided for TVPPA's and LPC's input, and a final recommendation ultimately will be proposed to the TVA Board. The scope of the Staff Recommendation is limited to regulation of rates included in agreements between LPCs and third parties making or maintaining wireline attachments, such as cable or telecommunication (including broadband) providers. This recommendation is not intended to apply to reciprocal or joint use agreements at this time although TVA also expects appropriate costs to be borne by all participants in these reciprocal or joint use agreements.

Methodology

TVA staff reviewed information related to pole attachment regulation throughout the country. Staff has observed that most methods for calculating pole attachment rates are based on the annual cost (or carrying charge) of a pole and the proportion of the attaching space on the pole occupied by an attachment. TVA does not feel that these methods recover the full costs associated with the pole attachment, so the Staff Recommendation provides for a pole attachment rate methodology that recovers the full cost of the pole in order to ensure that electric system ratepayers are not incurring costs that should be borne by attachers.

Under this proposed rate methodology, the pole attachment rate is calculated by first establishing the total annual cost of pole ownership, which includes administration, depreciation, maintenance, taxes, and rate of return. The total cost is then allocated among pole users based on: an assumed system average number of pole users; an equal allocation of support space among the pole users; an equal allocation of safety space among pole users; and an allocation of usable space to each pole user. As to the allocation of safety space among all pole users, TVA is specifically seeking additional input.

It has been suggested to TVA that allocation of safety space to only the third-party attachers would be more appropriate because the safety space is for the benefit of those third parties. Accordingly, while the attached methodology reflects an equal allocation of this space, TVA staff will further evaluate this issue along with any additional feedback that is received.

TVA recognizes that LPCs will need a period of time to phase-in any necessary changes to pole attachment rates to mitigate any significant changes in rates that will impact the LPCs and the attachers. Accordingly, TVA will work with LPCs to implement the rates derived from this rate methodology using the attached Guideline Adjustment Scale (Appendix 1) to provide for a transition period to the new rates. The Guideline Adjustment Scale provides for a period of time to adjust rates based on the difference between current and new rates.

In establishing the formula to reflect the fully allocated cost methodology for each individual LPC, TVA has utilized certain assumptions to simplify the calculation. For example, the calculation assumes an average of three attaching parties per pole, an average pole height of 37.5 feet, a 15 percent cross arm discount factor, and a uniform return on investment equal to 8.5%. A uniform return on investment percent used by all LPCs in the calculation of their pole cost rate will help promote consistency across the Valley. TVA will re-evaluate this percentage periodically for the pole attachment formula. A more detailed explanation of the components in the pole attachment formula is located in Appendix 2, and an example of the data used in the formula is located in Appendix 3.

Formula: (Space Allocation) x (Net Cost of Bare Pole) x (Carrying Cost)

- **Space Allocation** - The share of cost based upon amount, types, and purposes of space on the pole. (See Appendix 4)
- **Net Cost of a Bare Pole** – 85% of the net pole investment divided by the number of poles.
- **Carrying Cost** - Annual operating expenses associated with pole ownership. (Administrative, Maintenance, Depreciation, and Taxes as a percent of net plant plus input for return on investment.)

Once the LPC is applying the rate derived from the fully allocated cost methodology, then the LPC may use the Handy Whitman Index to annually escalate the pole attachment rate. Also, TVA would expect pole attachment counts to be updated in a reasonable cycle time to ensure accurate revenue collection to cover cost.

<u>Implementation</u>

Contingent upon TVA Board approval, TVA and LPCs should enter into an agreement no later than January 2017 to put the new methodology and rate into effect, some of which will be transitioned over time. TVA expects LPC's financial and accounting records to be accurate and urges LPCs to begin reviewing accounting information now. TVA recognizes that some LPCs may need this additional time (until January 2017) to review and reconcile pole plant accounting data.

Appendix 1

Guideline Adjustment Scale:

		Monthly - Adjustment (+/-)			
Dollar Variance	**Transition Period ***	**Low**		**High**	
$ 0 - $ 5	Immediate action	$	-	$	0.42
$ 6 - $10	No more than 2 years	$	0.21	$	0.42
$11 - $20	No more than 3 years	$	0.31	$	0.56
$21 - $30	No more than 4 years	$	0.44	$	0.63
$31 or greater	No more than 5 years	$	0.52	$	> 0.52

* Transition period begins once current contractual agreements have expired.

Appendix 2

Pole Attachment Formula Components

Definitions: For purposes of this Exhibit, the following definitions shall apply, and all financial data have been obtained from the local power companies (LPCs) most recent Annual Report to the Tennessee Valley Authority:

"**Administrative Charge**" shall mean the total of all of the LPCs' administrative and general expenses shown in all of the Sample LPCs' FERC Account 625 (which is a totaling account for FERC Accounts 920, 921, 923-926, 929 & 930) divided by the total of all of the LPCs' electric plant, net of accumulated depreciation.

"**Carrying Costs**" shall mean the sum of the Administrative Charge, the Depreciation Charge, the Maintenance Charge, the Rate of Return, and the Tax-Equivalent Charge, all of which shall be stated as a percentage of net plant.

"**Depreciation Charge**" shall mean the median depreciation rate for the LPCs' multiplied by the quotient of the LPCs' gross FERC Account 364 plant divided by the LPCs' net FERC Account 364 plant.

"**Maintenance Charge**" shall mean the three year average of the LPCs' FERC Account 593 plant expenses divided by the sum of the Sample LPCs' plant shown in FERC Accounts 364, 365 and 369, net of accumulated depreciation.

"**Pole Cost**" shall mean eighty-five percent (85%) of the pole investment as shown in the LPCs' FERC Account 364, net of accumulated depreciation, divided by the total number of Sample LPC utility poles included in FERC Account 364.

"**Rate of Return**" shall mean eight and a half percent (8.5%).

"**Space Allocation**" shall mean twenty-six and 96/100 percent (26.96%), which is based upon an average 37.5 foot pole and an average of three parties per pole, including the pole owner.

"**Tax and Tax-Equivalent Charges**" shall mean the quotient of the LPCs' tax and/or tax-equivalent payments shown in FERC Account 408.1 divided by all of the LPCs' electric plant, net of accumulated depreciation.

Appendix 3
Pole Attachment Formula Example

Net Cost of a Bare Pole	$	278.56	(a)
Carrying Charge		26.81%	(b)
Annual Cost of Ownership (a*b=X)	$	74.68	X
Space Allocation (% of Total Pole)			
Fully Allocated Cost Formula (B+(1/(A)*C)+(1/A)*E)/(D+E)		26.96%	Y
Maximum Rate per Pole			
Fully Allocated Cost Formula (X*Y=Z)	**$**	**20.13**	Z

Space Allocation: Assumptions include 3 entities attaching to 37.5' pole.

(A) Number of Attaching Parties	3	
(B) Space Occupied by Attaching Party	1	feet
(C) Safety Space	3.33	feet
(D) Total Usable Space	13.5	feet
(E) Total Support Space (6' Ground + 18' Clearance)	24	feet

Net Cost of a Bare Pole:

(1) Gross Pole Investment (FERC A/C 364)	$	7,545,190.30	
(2) Depreciation Reserve (FERC A/C 108.364)	$	1,972,753.62	
(3) Gross Plant Investment (FERC A/C 364, 365,& 369)	$	14,998,392.35	
(4) Net Investment (Poles) (L(1)-L(2))	$	5,572,436.68	
(5) Net Investment (Bare Pole) (L(4) x .85)	$	4,736,571.18	
(6) Number of Poles		17,004	
(7) Net Cost of a Bare Pole (L(5)/L(6))	**$**	**278.56**	(a)

Carrying Charge:

(1) Administrative Charge	3.26%	
(2) Maintenance Charge	8.75%	
(3) Depreciation Charge	4.06%	
(4) Taxes	2.23%	
(5) Return on Investment	8.50%	
(6) Total Carrying Charge Rate (L(1)+L(2)+L(3)+L(4)+L(5))	**26.81%**	(b)

Administrative Charge

(1) A&G Expense (TVA AR Rpt item 625 & a/c 935 -page 6)	$	1,321,181.13
(2) Net Plant Investment (TVA AR Rpt item 6-Page 1)	$	40,478,879.32
(3) Administrative Charge (L(1)/L(2))		**3.26%**

Maintenance Charge

(1) Maintenance Exp.(Three yr avg. -TVA AR a/c 593-Page 6)	$	855,593.57
(2) Net Investment (Pole Accounts 364, 365 & 369)	$	9,779,762.19
(3) Maintenance Charge (L(1)/L(2))		**8.75%**

Depreciation Charge

(1) Depreciation Rate (TVA AR Rpt -page 11)		3.00%
(2) Gross Pole Investment (Account 364)	$	7,545,190.30
(3) Net Pole Investment (Account 364)	$	5,572,436.68
(4) Depreciation Charge (L(1) x (L(2)/L(3))		**4.06%**

Taxes

(1) Total Current and Deferred Taxes (TVA AR a/c 408 Property -pg 29)	$	902,919.19
(2) Net Plant Investment	$	40,478,879.32
(3) Taxes (L(1)/L(2))		**2.23%**

Return on Investment

Authorized by Regulatory Authority	**8.50%**

Appendix 4
Space Allocation:
The Fully Allocated Cost Method

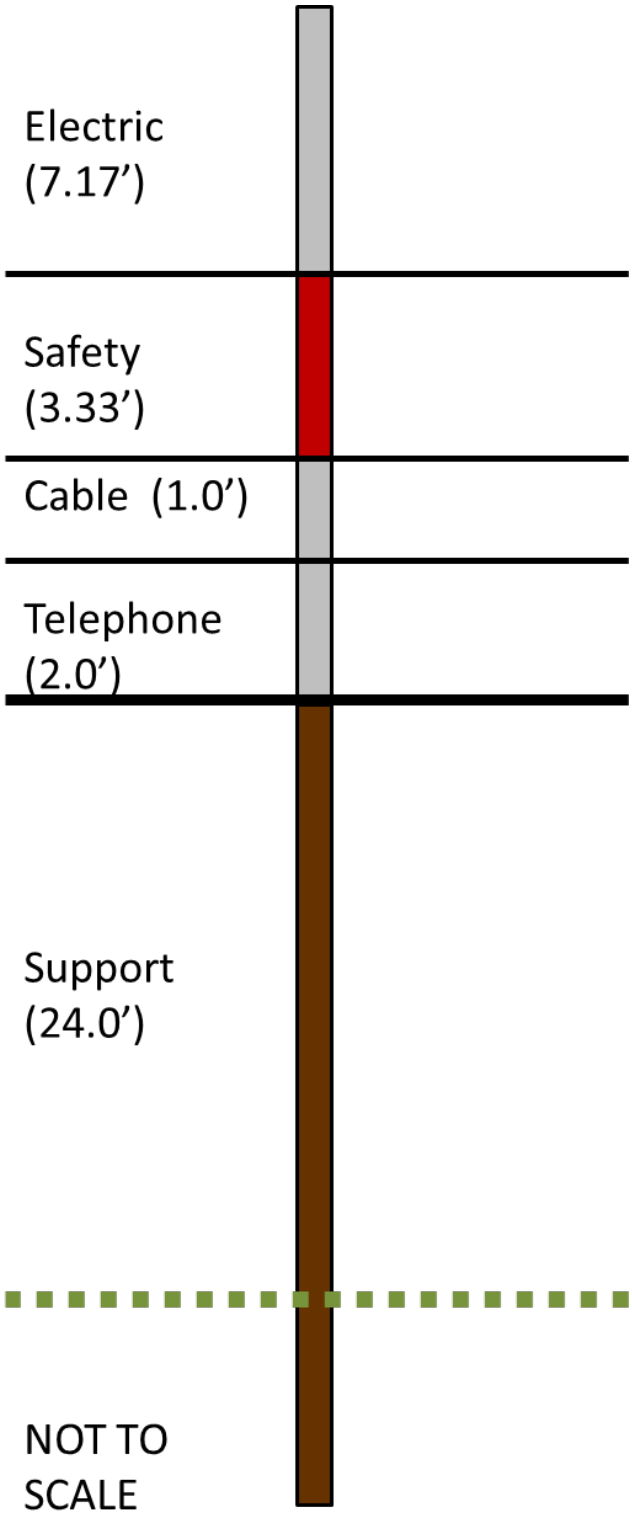
Allocates usable space

Equal sharing of safety space among all users including electric

Equal sharing of support space among all users including electric

Space allocation is 26.96% based on assumed 37.5 foot pole with 3 average users

Results in equal allocation of costs among pole owner and pole users



POLE ATTACHMENT FEE CALCULATION
FISCAL YEAR ENDED JUNE 30, 2014

Select Local Power Company	*Input Fiscal Year of Data*
	2014

This template is a tool to calculate pole attachment rates under TVA's proposed pole attachment recommendation. To use, input data specific to the local power company for the gray sections only. All other numbers calculate automatically. Source locations for the required data are noted in blue. For any questions or help populating the required data, please contact Laura McDade at (423) 751-2474 or ldmcdade@tva.gov.

DATA INPUTS

Data required for gray sections only.

Plant Account Data

Total Plant	2014	
Item 1 - Gross Plant	$ -	ANNUAL REPORT, PAGE 1
Item 2 - Depreciation	-	ANNUAL REPORT, PAGE 1
Net Plant	$ -	

	2014		
	Gross Plant	Depreciation	Net Plant
Plant Related to Poles	ANNUAL REPORT, PAGES 9 & 11		
Account 364 - Poles, Towers, and Fixtures	$ -	$ -	$ -
Account 365 - Overhead Conductors & Devices	$ -	$ -	$ -
Account 369 - Services	$ -	$ -	$ -
Total	$ -	$ -	$ -

Account 364 Data

	2014	
Number of Poles Pole	-	LPC INTERNAL POLE COUNT RECORDS
Depreciation (% Gross Plant)	0.00%	ANNUAL REPORT, PAGE 11

Expense Data

	2014	
Item 625 + Account 935 - Administrative &General Expense	$ -	ANNUAL REPORT, PAGE 6
Account 408.1 - Property Taxes Net	$ -	ANNUAL REPORT, PAGE 29
Current Deferred Operating Income Taxes Net	$ -	LPC INTERNAL ACCOUNTING RECORDS
Noncurrent Deferred Operating Income Taxes	$ -	LPC INTERNAL ACCOUNTING RECORDS
Account 593 - Overhead Lines Distribution Maintenance		ANNUAL REPORT, PAGE 6
2012	$ -	
2013	$ -	
2014	$ -	
3 Year Average	$ -	

Note: Confirm that account 593 captures maintenance expenses for accounts 364, 365 & 369

Rate of Return

Authorized by Regulatory Authority	8.5%

CALCULATIONS

Space Allocation Scenarios	3 party, 1 foot
(A) Number of Attaching Parties	3
(B) Space Occupied by Attaching Party	1
(C) Safety Space	3.33
(D) Total Usable Space	13.50
(E) Total Support Space (6' Ground + 18' Clearance)	24
Space Allocation (% of Total Pole)	
Fully Allocated Cost Formula (B+(1/(A)*C)+(1/A)*E)/(D+E)	26.96%
Net Cost of a Bare Pole (Breakdown below)	NA
Carrying Charge Rate (Breakdown below)	NA
Annual Cost of Ownership	NA

Maximum Rate per Pole (Space Allocation % x Annual Cost)	**3 party, 1 foot**
Fully Allocated Cost Formula	**NA**

POLE ATTACHMENT FEE CALCULATION
FISCAL YEAR ENDED JUNE 30, 2014

Select Local Power Company		*Input Fiscal Year of Data*
		2014

Breakdown of Inputs in Calculations

Net Cost of a Bare Pole		
(1) Gross Pole Investment	$	-
(2) Depreciation Reserve	$	-
(3) Net Current Deferred Operating Income Taxes	$	-
(4) Net Noncurrent Deferred Operating Income Taxes	$	-
(5) Net Deferred Operating Income Taxes (L(3)+L(4))	$	-
(6) Gross Plant Investment	$	-
(7) Net Deferred Operating Income Taxes (Poles) ((L(1)/L(6) x L(5))		NA
(8) Net Investment (Poles) (L(1)-L(2)-L(7))		NA
(9) Net Investment (Bare Pole) (L(8) x .85)		NA
(10) Number of Poles		-
(11) Net Cost of a Bare Pole (L(9)/L(10))		**NA**
Carrying Charge Rate		
Carrying Charge		
(1) Administrative Charge		NA
(2) Maintenance Charge		NA
(3) Depreciation Charge		NA
(4) Taxes		NA
(5) Return on Investment		8.5%
(6) Total Carrying Charge Rate (L(1)+L(2)+L(3)+L(4)+L(5))		**NA**
Administrative Charge		
(1) A&G Expense (625 + 935)	$	-
(2) Net Plant	$	-
Investment		
(3) Administrative Charge (L(1)/L(2))		NA
Maintenance Charge		
(1) Average Maintenance Expense (593)	$	-
(2) Net Investment (Pole Accounts 364, 365 & 369)	$	-
(3) Maintenance Charge (L(1)/L(2))		NA
Depreciation Charge		
(1) Depreciation Rate		0.00%
(2) Gross Pole Investment (Account 364)	$	-
(3) Net Pole Investment (Account 364)	$	-
(4) Depreciation Charge (L(1) x (L(2)/L(3))		NA
Taxes		
(1) Total Current and Deferred Taxes	$	-
(2) Net Plant Investment	$	-
(3) Taxes (L(1)/L(2))		NA
Return on Investment		
Authorized by Regulatory Authority		8.5%

WACC with Public Utility Basis Capital Structure

- Using a Public Power Utility Basis Model implied LPC capital structure and applying a CAPM approach to derive targeted ROE, a reasonable WACC for LPCs would be 8.5%

Components	TVA Equivalent Debt	Lower Cost Debt	Lowest Cost Debt
Debt Rate of Return	7.0%	6.8%	6.6%
Equity Rate of Return	8.7%	8.7%	8.7%
WACC RESULTS			
LPC Average	8.4%	8.3%	8.3%
LPC Minimum	7.6%	7.5%	7.4%
LPC Maximum	8.7%	8.7%	8.7%

- The table above does not include any adjustments for project specific risk, which should be considered when calculating hurdle rates for project analysis
- The equity return of 8.7% is estimated using the Capital Asset Pricing Model

  $r_i = r_{rf} + \beta(R_m - r_{rf})$

  r_{rf} = 4.08% (30 year average of 10-year US Treasury Bond Yield)

  β = 0.93 (debt/equity per Utility Basis model; utility unlevered Barra beta estimate of 0.42*)

  $(R_m - r_{rf})$ = 5% (research-based long-term average equity return)**

* beta estimate sourced from January 2015 update of Betas by Sector by Aswath Damodaran, Stern School of Business, NYU

** 5% was commonly used prior to 2008, after which all equity market risk premium have significantly increased. A light downward trend is observed after 2010 according to a KPMG study in January 2015.

EXHIBIT G

Privileged and Confidential

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	
Commonwealth Telephone Company LLC d/b/a Frontier Communications Commonwealth Telephone Company, Frontier Communications of Breezewood, LLC, Citizens Telecommunications Company of West Virginia d/b/a Frontier Communications Company of West Virginia, and Frontier West Virginia Inc., *Complainants,*	**EB-14-MD-008**
v.	
Metropolitan Edison Company, Pennsylvania Electric Company, West Penn Power Company d/b/a Allegheny Power, Monongahela Power Company, and The Potomac Edison Company, *Respondents*	

DECLARATION OF RANDALL J. COLEMAN

1. I am the Manager, Distribution Standards at FirstEnergy Service Company.
2. In this capacity, I oversee activities associated with the use of distribution poles owned and used by of the above-named FirstEnergy operating utilities ("FirstEnergy Utilities").
3. I am familiar with costs associated with the construction, removal, and transfer of electric distribution facilities located on distribution poles and underground.
4. The chart attached hereto at Exhibit RC-1 was prepared under my supervision.
5. The chart explains certain costs associated with the removal of the electric facilities of the FirstEnergy Utilities from poles owned by the Frontier entities identified above ("Frontier").

6. Specifically, the chart identifies the following costs that would be incurred by the FirstEnergy Utilities to do the following:

   a) Construct a new overhead pole line for the needs of FirstEnergy Utilities alone that would be located adjacent to a line of poles owned by Frontier and then transfer the existing FirstEnergy Utilities electric facilities from the Frontier poles to the newly-constructed pole line. These costs are identified in Rows 3-10.

   b) Construct a new overhead pole line for the needs of FirstEnergy Utilities alone that would be located across the street from a line of poles owned by Frontier, construct equivalent electric facilities for the use of the FirstEnergy Utilities on that new pole line, and remove the existing FirstEnergy electric facilities from Frontier's poles. These costs are identified in Rows 12-19.

   c) Construct underground facilities for the needs of FirstEnergy Utilities alone that would be located adjacent to a line of poles owned by Frontier and then transfer the existing FirstEnergy Utilities electric facilities from the Frontier poles to the newly-constructed underground facilities. These costs are identified in Rows 21-28, with additional per customer costs identified in Rows 30-31.

7. As the chart indicates, the costs that would be incurred by the FirstEnergy Utilities to perform such activities specified in Paragraphs 6 (a)-(c) above would vary depending on the complexity of the electric facilities and whether the facilities are located in a "Rural" area or a "Congested" area.

8. The chart specifies different costs for 15kV, single-phase equipment; 15kV, three-phase equipment; 35kV, single-phase equipment; and 35kV, three-phase equipment.

9. The difference between a 15kV line and a 35kV line is that a 35kV line holds more electric capacity.
10. 15kV lines are much more common than 35kV lines.
11. The difference between a single-phase and three-phase line is that a three phase line has three current carrying conductors with a neutral and single phase line has one current carrying conductor with a neutral.
12. Three-phase lines are often required in commercial areas, while single-phase lines are often all that is required in residential areas.
13. For "Rural" areas, our calculations assumed that there are 20 customers per mile, 10 locations for transformer installations, and, for three-phase scenarios, one location for a three-phase transformer installation.
14. For "Congested" areas, our calculations assumed that there are 120 customers per mile, 15 locations for transformer installations, and, for three-phase scenarios, five locations for three-phase transformer installations.
15. For all of our calculations on the chart, we assumed that there were thirty poles per mile with a 175-foot ruling span, a 1/0 Aluminum-Conductor Steel-Reinforced (ACSR) that is the FirstEnergy median conductor size.
16. A length of 175 feet is the median ruling span length for 1/0 ACSR.
17. The costs in Rows 30-31 are the additional costs per customer that would be incurred to move facilities from overhead to underground.
18. The cost is Row 30 is the cost per customer to remove an overhead triplex secondary conductor and install an underground triplex secondary conductor.

19. The cost is Row 30 is the cost per customer to remove an overhead triplex secondary conductor and install an underground triplex secondary conductor, with the extra cost of performing a directional bore across a public right-of way to provide secondary voltage.

20. As the table shows, the least costly alternative would be for the FirstEnergy Utilities to construct a duplicate pole line next to the existing Frontier pole line and then transfer its facilities from the Frontier poles to the newly-constructed duplicate pole line. Using the simplest 15 kV, single-phase facilities in rural areas, the cost per mile would be $60,258.90. In a congested area, the cost per mile would be $96,006.44. See Table at Rows 7 and 3.

21. For 35 kV, three-phase facilities, the rural area and congested area per mile costs to construct a duplicate, adjacent pole line and transfer facilities would be $93,658.36 and $141,641.58, respectively. See Table at Rows 10 and 6.

22. These calculations for adjacent duplicate pole lines can be summarized as follows:

15 kV, single phase, rural:	$ 60,258.90 /mile
15 kV, single phase, congested:	$ 96,006.44 /mile
35 kV, 3-phase, rural:	$ 93,658.36 /mile
35 kV, 3-phase, congested:	$141,641.58 /mile[1]

23. In many cases, however, there would be no room for a new pole line to be constructed adjacent to the existing pole line, and the new line must therefore be installed across the street. In that case, a simple transfer of facilities is not possible so that FirstEnergy would need not only to construct the new pole line but also rebuild its electric distribution facilities (and of course remove its existing facilities from Frontier's poles). In that event, the range of costs for duplicate pole lines across the street would be as follows:

15 kV, single phase, rural:	$ 96,937.50 /mile

[1] See Rows 7, 1, 10 and 6, respectively.

15 kV, single phase, congested:	$140,910.03 /mile
35 kV, 3-phase, rural:	$153,279.38 /mile
35 kV, 3-phase, congested:	$219,813.10 /mile[2]

24. The cost of going underground is greater. The FirstEnergy Utilities would need to construct underground facilities for its own needs that would be located adjacent to a line of poles owned by Frontier and then transfer its existing electric facilities from the Frontier poles to the newly-constructed underground facilities. The range of such costs for the FirstEnergy Utilities to go underground would be as follows:

15 kV, single phase, rural:	$324,128.03 /mile
15 kV, single phase, congested:	$368,218.22 /mile
35 kV, 3-phase, rural:	$517,093.93 /mile
35 kV, 3-phase, congested:	$751,775.81 /mile[3]

25. Assuming that FirstEnergy were able to construct duplicate pole lines, then some average of the per-mile costs associated with adjacent vs. across the street pole lines, rural vs. congested, 15 kV vs. 35 kV, and single-phase vs. 3-phase would need to be calculated to determine the estimated per-mile cost for such an undertaking. That figure would likely be considerably higher than $100,000 per mile.

26. From an economic perspective, it makes no sense whatsoever for FirstEnergy to incur a minimum initial cost of $60,258.90 per mile and an annual cost thereafter of $12,000 per mile to create duplicate pole facilities when the alternative is to continue attaching to an existing pole line at a per mile cost of $963.15 per year.

27. In my experience analyzing attachments made to the poles of the FirstEnergy Utilities, cable company attachments and non-pole owning telephone companies (CLECs) typically attach less equipment to utility poles than do telephone company pole owners (ILECs) like Frontier.

---

[2] See Rows 16, 12, 19 and 15, respectively.

[3] See Rows 25, 21, 28 and 24, respectively.

In addition, cable companies and CLECs both typically occupy the middle space on the pole above the ILEC attachments and below electric utility attachments.

28. Since the ILEC's attachments are the lowest attachments on the pole, the ILEC attachments must maintain the mid-span clearance of 15'6" above the ground that is required by the National Electrical Safety Code. FirstEnergy includes this mid-span clearance requirement in its engineering standards. In order to maintain this clearance mid-span, ILECs typically attach their facilities higher than the 18 feet above ground level.

29. Frontier is no exception. Frontier is almost always the lowest attacher on its joint use poles that it shares with the FirstEnergy Utilities, and its lowest attachments on these joint use poles are typically located higher than 18 feet above ground level, on average at about 21 feet above ground. In addition, the distance between Frontier's lowest attachments on these poles and its highest attachments is on average approximately 3 feet, not including clearances.

I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES THAT THE FOREGOING IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Randal J. Coleman

Date: 7/9/2014

EXHIBIT RC-1

	A	B	C
1	ACTIVITY	POLES AND LOCATION	ESTIMATED COST
2			
3	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class - 1PH - Congested Area	$ 96,006.44
4	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class - 3PH - Congested Area	$ 121,491.83
5	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class - 1PH - Congested Area	$ 100,755.82
6	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class - 3PH - Congested Area	$ 141,641.58
7	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class - 1PH - Rural Area	$ 60,258.90
8	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class - 3PH - Rural Area	$ 76,327.35
9	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class - 1PH - Rural Area	$ 66,592.42
10	CONSTRUCT DUPLICATE POLE LINE & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class - 3PH - Rural Area	$ 93,658.36
11			
12	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	15 kV Class - 1PH - Congested Area	$ 140,910.03
13	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	15 kV Class - 3PH - Congested Area	$ 199,580.41
14	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	35 kV Class - 1PH - Congested Area	$ 150,499.53
15	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	35 kV Class - 3PH - Congested Area	$ 219,813.10
16	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	15 kV Class - 1PH - Rural Area	$ 96,937.50
17	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	15 kV Class - 3PH - Rural Area	$ 132,951.22
18	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	35 kV Class - 1PH - Rural Area	$ 105,999.63
19	CONSTRUCT NEW POLE LINE/DISTRIBUTION SYSTEM & REMOVE ELECTRIC FROM FRONTIER POLES	35 kV Class - 3PH - Rural Area	$ 153,279.38
20			
21	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class Underground - 1PH - Congested Area	$ 368,218.22
22	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class Underground - 3PH - Congested Area	$ 632,161.68
23	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class Underground - 1PH - Congested Area	$ 456,493.39
24	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class Underground - 3PH - Congested Area	$ 751,775.81
25	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class Underground - 1PH - Rural Area	$ 324,128.03
26	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	15 kV Class Underground - 3PH - Rural Area	$ 421,095.61
27	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class Underground - 1PH - Rural Area	$ 384,097.54
28	CONSTRUCT UNDERGROUND & TRANSFER ELECTRIC FROM FRONTIER POLES	35 kV Class Underground - 3PH - Rural Area	$ 517,093.93
29			
30	ADDITIONAL PER CUSTOMER CHARGE TO MOVE UNDERGROUND	Underground Without Directional Boring	$ 804.47
31	ADDITIONAL PER CUSTOMER CHARGE TO MOVE UNDERGROUND	Underground With Directional Boring	$ 2,278.67

EXHIBIT H

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	
Commonwealth Telephone Company LLC d/b/a Frontier Communications Commonwealth Telephone Company, Frontier Communications of Breezewood, LLC, Citizens Telecommunications Company of West Virginia d/b/a Frontier Communications Company of West Virginia, and Frontier West Virginia Inc., *Complainants,*	**EB-14-MD-008**
v.	
Metropolitan Edison Company, Pennsylvania Electric Company, West Penn Power Company d/b/a Allegheny Power, Monongahela Power Company, and The Potomac Edison Company, *Respondents*	

DECLARATION OF BRIDGER M. MITCHELL

1. An economist, I hold a Ph.D. in economics from the Massachusetts Institute of Technology and am an expert in telecommunications economics. I previously served on the economics faculty of Stanford University and as a senior economist at The Rand Corporation. At Charles River Associates I have served as a vice president and am currently a senior consultant.

2. I have published research in the field of telecommunications economics, including the book Telecommunications Pricing: Theory and Practice. My expertise includes theoretical and empirical analysis of telecommunications pricing, including peak-load

pricing, usage-sensitive pricing, an international comparative study of telephone rates, and billing for call duration. I have co-authored 5 books and published more than 70 professional papers in peer-reviewed journals and volumes. I have testified in judicial and regulatory proceedings concerning antitrust and competition issues. My curriculum vitae is attached as Exhibit BM-1 to my Declaration sworn in this proceeding.

3. I have been asked by FirstEnergy Corporation to comment on the bargaining positions of an electric utility and an incumbent local exchange telephone company (ILEC) when those two companies have joint-use agreements that provide for attachments to each other's utility poles.

4. As the Commission has observed in its April 7, 2011 Pole Attachment Order[1] it has been common practice for an electric distribution utility and an ILEC to have long-term agreements to share the costs of constructing and maintaining poles that both companies use to attach wires and related equipment needed for their respective distribution networks in a service area.[2]

5. The basic economics of joint use of a single distribution pole results from the opportunity for the two companies to share the total costs of a single pole, one that is constructed to allow attachments of the wires and associated equipment of both companies. Absent agreement to share a pole, each company must in theory incur the stand-alone cost of constructing and maintaining a pole for its own network. The cost of the joint-use pole will be somewhat greater than the costs of either one of the two

[1] *In the Matter of Implementation of Section 224 of the Act: A National Broadband Plan for Our Future, Report and Order on Reconsideration, FCC 11-50*, April 7, 2011 (*Pole Attachment Order*).

[2] *Pole Attachment Order* ¶216.

stand-alone poles, because additional pole height must be provided to separate high-voltage electric utility wires from the telephone cables. But because the total cost of the joint-use pole is less than the sum of the costs of two stand-alone poles, the two companies have the opportunity to reduce their distribution costs by sharing poles.

6. Electric utilities and ILECs have long recognized the benefits of sharing distribution poles. The joint-use agreements commonly provide for the individual poles to be owned by one of the two companies and constructed to joint-use standards. In some cases, including those in the Frontier Complaint, the agreements provide for a periodic payment for attaching to each joint-use pole owned by the other company.[3]

7. By entering into a joint-use agreement the two companies strike a long-term bargain that indirectly determines what fraction each company will bear of the total costs of the shared joint-use poles. Each company incurs the full cost of constructing and maintaining the poles that it owns, makes payments for attaching to the other company's poles, and receives payments for attachments to its poles.

8. The agreement therefore also determines how the savings in total costs will be shared from constructing a single joint-use pole rather than the alternative of each company potentially constructing its own stand-alone pole. In the language of economic game theory, how the savings in total costs are shared between the electric utility and the ILEC can be understood to be the solution to a cooperative game.[4]

9. If the electric utility and the ILEC were initiating their distribution networks they would potentially face the choice of constructing separate poles for each company, or

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[3] In other agreements, not at issue here, each company constructs and maintains its own poles and attaches to the poles of the counterpart company at no charge, as long as certain ownership percentages are maintained.

[4] H. P. Young, "Cost Allocations", in *Handbook of Game Theory with Economic Applications, vol. 2.* (1994a), ed. R. Aumann and S. Hart ; series editors, K. Arrow and M. Intriligator, pp. 1193-1235.

shared poles for joint use. The joint-use agreements, however, presumably came into existence to formalize an already existing practice of pole sharing as well as to provide for sharing of costs and pole use as networks were expanded.

10. In the cooperative game of sharing the costs savings, bargaining power arises when the two companies (players) have at least two feasible options. In the case of the initial joint-use agreements, it might be thought that the electric utility and the ILEC have two options: (1) to cooperatively agree to share poles and joint-use pole costs, or (2) for each company to construct its own poles and incur stand-alone costs.

11. It is my understanding, however, that the second option – in which each company constructs its own sole-use pole network – is not feasible, for several reasons. First, state public service commissions and municipalities are strongly opposed to proliferation of utility poles and new construction may also be required to be underground. Second, access to the necessary rights of way may be unobtainable from municipal or private property owners. Third, the costs of constructing new poles or constructing underground service greatly exceed the costs of continuing to pay pole attachment rates to the joint-use pole owner.

12. With no feasible option to their current joint-use agreement, neither the electric utility nor the ILEC has a basis with which to bargain for a change in the agreement governing existing joint-use poles. Thus, both companies lack bargaining power. Moreover, even if the joint-use agreement were terminated, most of the joint-use poles subject to Frontier's Complaint would continue to be governed by the

"evergreen" clause of the relevant agreement that gives each company the continuing right to attach its equipment to those poles at the same attachment rates.[5]

I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES THAT THE FOREGOING IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

B. Mitchell

Bridger M. Mitchell

Date: July 10, 2014

[5] Frontier Complaint, Exhibit. 1, Metropolitan Edison and Commonwealth Telephone, January 1, 1975, p. 10, article 18; Exhibit. 3, Pennsylvania Electric and Commonwealth Telephone, September 1, 1958, pp. 12-13, article 19; Exhibit 11, Potomac Light and Power and General Telephone, January 1, 1960, p. 10, article 21; Exhibit 17, Potomac Light and Power and Chesapeake and Potomac Telephone of West Virginia, p. 10, article 21.

EXHIBIT BM-1

BRIDGER M. MITCHELL
Independent Consultant

Ph.D. Economics,
Massachusetts Institute of Technology

A.B. Economics
Stanford University

Bridger M. Mitchell is an independent economics consultant. He is an expert in competition and pricing in the telecommunications industry and is the author of five books and numerous articles in professional journals. He has researched regulatory issues involving the theory and practice of telecommunications pricing, competition, and equal access in local telephone markets, interconnection of wireless and wire line telecommunications networks, international telephone rates, internet peering, and broadcasting and cable television. Dr. Mitchell has testified and/or consulted on a number of litigation and regulatory matters involving telecommunications, including market definition, interconnection costing and pricing, leasing of rights-of-way, incentive regulation, anticompetitive behavior, telecommunications cost modeling, and fair cost distribution, as well as damages from breach of contract and misappropriation of trade secrets. At Charles River Associates he was a vice president and head of the Palo Alto office and served as head of CRA's auction practice and co-authored reports on improved designs for spectrum auctions. Prior to joining CRA, he taught economics at Stanford University and UCLA, and was a senior economist at the RAND Corporation. Dr. Mitchell's international experience includes projects in Argentina, Australia, Brazil, Canada, Hong Kong, India, Jamaica, Malaysia, Mexico, New Zealand, Peru, Thailand, Trinidad and Tobago, the United Kingdom, and the European Union; residence at research centers in Berlin and Delft; as well as consulting assignments with the World Bank.

PROFESSIONAL EXPERIENCE

2008-Present	*Senior Consultant*, CRA International, Oakland, CA
1994–2008	*Vice President*, CRA International, Palo Alto, CA
1972–1994	*Senior Economist*, Social Policy Department, RAND Corporation, Santa Monica, CA
1977–1979	*Research Fellow*, International Institute of Management, Science Center, Berlin
1976	*Acting Associate Professor of Economics*, Stanford University
1973–1975	*Lecturer in Economics*, UCLA
1972	*Director*, National Health Insurance Analysis Staff, Department of Health, Education, and Welfare, Washington, D.C.
1971–1972	*Brookings Economic Policy Fellow*, Office of the Secretary, Department of Health, Education, and Welfare, Washington, D.C.

1971–1972 *Economic Policy Fellow*, The Brookings Institution, Washington, D.C.

1966–1971 *Assistant Professor of Economics*, Stanford University

RESEARCH AREAS

Telecommunications

Analysis of interconnection of telecommunications networks.

Analysis of competition and equal access in local telephone markets.

Comprehensive study of theory and practice of telecommunications pricing.

Methodology for estimating the incremental costs of local exchange telephone service.

First model of the cost structure of a cable television firm.

Analysis of major regulatory issues in broadcasting and cable television.

Studies of costs and benefits of usage-sensitive pricing for local telephone service.

Comparative international study of telephone rates.

Evaluation of peak-load and capacity pricing for network services.

Economics of universal service in email networks.

Energy

Studies of consumer demand for electricity and forecasts of electricity demand.

Analysis of structure of electric utility rates in the United States and abroad.

Assessment of peak-load pricing in electric utilities in six European countries and its potential effects in the United States.

Co-direction of a major five-year experiment to test the costs and benefits of peak-load electricity rates for residential customers in Los Angeles.

Analysis of results from electricity rate structure experiments for the design of new tariffs.

Health

Development of demand model for employer-provided health insurance.

Study of alternative methods of financing national health insurance plans and distribution of the costs and insurance benefits across consumer groups.

Analysis of effect of national insurance financing on unemployment and federal expenditures.

Economic evaluation of national health insurance legislation.

Economic Regulation

Analysis of federal regulation of cable television.

Assessment of effects of copyright requirements on cable television service.

Econometrics

Development of new methods for estimating large-scale simultaneous equation models.

Time-series analysis of economic data.

Design of experiment for time-of-day electricity pricing.

Measurement of technological change.

PROFESSIONAL ORGANIZATIONS

American Economics Association.

International Telecommunications Society

Member, Editorial Board, Information Economics and Policy, 1985–2004

Member, Organizing Committee, Telecommunications Policy Research Conference, 1990

Chair, Organizing Committee, Telecommunications Policy Research Conference, 1991–1993

Chair, Board of Directors, Telecommunications Policy Research Conference, 1993–1994

HONORS

Phi Beta Kappa, 1962

Danforth Fellow, 1962–1966

Woodrow Wilson Fellow, 1962–1963

National Science Foundation Research Fellow, 1965–1966

Brookings Economic Policy Fellow, 1972–1972

German Marshall Fund Fellow, 1977–1979

Alexander von Humboldt Foundation Research Fellow, 1977–1979

CONSULTANCIES

World Bank, 1991–1994

California Public Utilities Commission, 1992

Social Security Administration, 1977–1978

Office of Telecommunications Policy, 1976–1978

Department of Health, Education, and Welfare, 1972–1978

Various law firms, corporations, and banks, 1965–1994

PUBLICATIONS

Books

Telecommunications Competition: The Last Ten Miles. With I. Vogelsang. Cambridge, MA: MIT Press and AEI Press, 1997. (Also published in Korean, Korean Information Society Development Institute, 1998.)

Universal Access to E-Mail: Feasibility and Societal Implications. With R. H. Anderson, T. K. Bikson and S. A. Law. Santa Monica, CA: RAND, 1995.

Telecommunications Pricing: Theory and Practice. With I. Vogelsang. Cambridge: Cambridge University Press, 1991. (Also published in Japanese, Tuttle-Mori Agency, Inc., Tokyo, 1995.)

Regulated Industries and Public Enterprise: European and United States Perspectives. Editor. With P. R. Kleindorfer. Lexington, MA: Lexington Books, 1980.

Peak-Load Pricing: European Lessons for U.S. Energy Policy. With J. P. Acton and W. G. Manning, Jr. Cambridge, MA: Ballinger Publishing Company, 1978.

Articles and Refereed Chapters in Books

"Bill-and-Keep and the Economics of Interconnection in Next-Generation Networks." With Moya Dodd, Astrid Jung, Paul Paterson, Paul Reynolds. *Telecommunications Policy*, (33) June-July 2009.

"Emerging Network Technologies." With D. Hatfield and P. Srinagesh. *Handbook of Telecommunications Economics, Vol. 2,* S. K. Majumdar, M. Cave, I. Vogelsang, (eds.), 2005.

"Advances in Routing Technologies and Internet Peering Agreements." With S. Besen, P. Milgrom, and P. Srinagesh. *American Economic Review*, May 2001.

"Competitive Effects of Internet Peering Policies." With P. Milgrom and P. Srinagesh. *The Internet Upheaval*, B. Compaine and I. Vogelsang, (eds.), MIT Press, 2000.

"An Economic Analysis of Telephone Number Portability." With P. Srinagesh. *Competition, Regulation, and Convergence*, S. E. Gillett and I. Vogelsang, (eds.), Lawrence Erlbaum, 1999.

"Markup Pricing for Interconnection: A Conceptual Framework." With I. Vogelsang. *Opening Networks to Competition: The Regulation and Pricing of Access*, D. Gabel and D. Weiman, (eds.), Kluwer Academic Publishers. Boston, 1998.

"Technological Change and the Electric Power Industry: Insights from Telecommunications." With P. J. Spinney. *The Virtual Utility*, S. Awerbuch and A. Preston, (eds.), Kluwer Academic Publishers. Boston, 1997.

"Costs and Cross-Subsidies in Telecommunications." *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC, 1995.

"Federal Investment Through Subsidies: Pros and Cons." *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC, 1995.

"Expanded Competitiveness and Regulatory Safeguards in Local Telecommunications Markets." With I. Vogelsang. *Managerial and Decision Economics*, 1995. Also published in *Deregulating Telecommunications*, R. S. Higgins and P. H. Rubin, (eds.), John Wiley, New York, 1995.

"The Regulation of Pricing of Interconnection Services." With W. Neu, K-H Neumann, and I. Vogelsang. In Gerald Brock (ed.), *Toward a Competitive Telecommunication Industry: Selected Papers from the 1994 Telecommunications Policy Research Conference*, Lawrence Erlbaum Associates, Inc., 1995.

"Network Interconnection in the Domain of ONP." With J. Arnbak, W. Neu, K-H Neumann, and I. Vogelsang. *European Commission DG XIII*, Brussels, November 1994.

"Network Interconnection in the Domain of ONP: Country Studies." With J. Arnbak, G. N'Guyen, B. Ickenroth, W. Neu, K-H Neumann, and I. Vogelsang. *European Commission DG XIII*, Brussels, November 1994.

"Efficient Pricing of Telecommunications Services and the Ways to Get There." In S. Globerman, W. T. Stanbury, and T. A. Wilson (eds.), *The Future of Telecommunications Policy in Canada*. Toronto, 1994.

"Het toewijzen van spectrum voor cellulaire telefonie: Evaringen in de VS." *Mediaform* 4, No. 7–8 (1992): 82–84.

"Allocating Spectrum for Cellular Telephones: U.S. Experience and Issues." In Franca Klaver and Paul Slaa (eds.), *Telecommunications: New Signposts to Old Roads*. Proceedings, IOS Press, Amsterdam, 1992.

"Telephone Penetration." In B. Cole (ed.), *After the Breakup: Assessing the New Post-AT&T Divestiture Era*. Columbia University Press, 1991, pp. 370–376.

"Incremental Capital Costs of Telephone Access and Local Use." In *Telecommunications Costing in a Dynamic Environment*. Hull, Quebec: Bell Canada, 1989.

"Measuring Technological Change of Heterogeneous Products." With A. J. Alexander. *Technological Forecasting and Social Change* 27 (1985): 161–195.

"Pricing Subscriber Access to the Telephone Network." In A. Baughcum and G. R. Faulhaber (eds.), *Telecommunications Access and Public Policy*. Norwood, NJ: Ablex, 1984.

"Response to Residential Time-of-Use Electricity Rates: How Transferable Are the Findings?" With D. F. Kohler. *Journal of Econometrics* 26 (1984): 141–177.

"Local Telephone Costs and Design of Rate Structures." In L. Courville, A. de Fontenay, and A. R. Dobell (eds.), *Economic Analysis of Telecommunications: Theory and Applications*. North-Holland Publishing Company, 1983.

"Charging for Local Telephone Calls: How Household Characteristics Affect the Distribution of Calls in the GTE Illinois Experiment." With R. E. Park, B. M. Wetzel, and J. H. Alleman. *Journal of Econometrics* 22 (1983): 339–364.

"Price Elasticities for Local Telephone Calls." With R. E. Park. *Econometrica* 51, No. 6 (November 1983): 1699–1730.

"The Cost of Telephone Service: An International Comparison of Rates in Major Countries." *Telecommunications Policy* (March 1983): 53–63.

"Welfare Analysis of Electricity Rate Changes." With J. P. Acton. In S. Berg (ed.), *Metering for Innovative Rate Structures*. Lexington, MA: Lexington Books, 1983.

"Electricity Consumption by Time of Use in a Hybrid Demand System." With J. P. Acton. In Jorg Finsinger (ed.), *Public Sector Economics*. MacMillan Press Ltd., 1983.

"Specifying and Estimating Multi-Product Cost Functions for a Regulated Telephone Company." In G. Fromm (ed.), *Studies in Public Regulation*. Cambridge, MA: MIT Press, 1981.

"Repression Effects of Mandatory vs. Optional Local Measured Telephone Services." With R. E. Park. In H. Trebling (ed.), *New Challenges for the 1980s*. East Lansing, MI: Institute of Public Utilities, 1981.

"The Effect of Time-of-Use Rates: Facts vs. Opinions." With J. P. Action. *Public Utilities Fortnightly* 107, No. 9 (April 23, 1981): 1–8.

"Alternative Measured-Service Rate Structures for Local Telephone Services." In M. A. Crew (ed.), *Issues in Public Utility Pricing and Regulation*. Lexington, MA: Lexington Books, 1980.

"New Technologies, Competition, and the Postal Service." In R. Sherman (ed.), *Postal Service Issues*. Washington, D.C. American Enterprise Institute, 1980.

"Do Time-of-Use Rates Change Load Curves? And How Would You Know?" With J. P. Acton. *Public Utilities Fortnightly* 105, No. 11 (May 22, 1980): 3–12.

"Estimating Residential Electricity Demand under Declining-Block Tariffs: An Econometric Study Using Micro Data." With J. P. Acton and R. Sohlberg. *Applied Economics* 12, No. 2 (June 1980): 145–161.

"Evaluating Time-of-Day Electricity Rates for Residential Customers." With J. P. Acton. In B. M. Mitchell and P. R. Kleindorfer (eds.), *Regulated Industries and Public Enterprise: European and United States Perspectives*. Lexington, MA: Lexington Books, 1980.

"Public Enterprise and Regulation in International Perspective." With P. R. Kleindorfer. In B. M. Mitchell and P. R. Kleindorfer (eds.), *Regulated Industries and Public Enterprise: European and United States Perspectives*. Lexington, MA: Lexington Books, 1980.

"Estimating the Autocorrelated Error Model with Trended Data: Further Results." With R. E. Park. *Journal of Econometrics* 13 (1980): 185–201.

"Telephone Call Pricing in Europe: Localizing the Pulse." In J. Wenders (ed.), *Pricing in Regulated Industries: Theory and Applications II*. Denver, CO: Mountain States Telephone and Telegraph Co., 1979.

"Pricing Policies in Selected European Telephone Systems." In H. Dordick (ed.), *Proceedings of the Sixth Annual Telecommunications Policy Research Conference*. Lexington, MA: Lexington Books, 1979.

"Design of the Los Angeles Peak-Load Pricing Experiment for Electricity." With J. P. Acton and W. G. Manning, Jr. *Journal of Econometrics* 11 (1979): 131–193.

"Peak-Load Pricing of Electricity." With J. P. Acton and W. G. Manning, Jr. *Journal of Business Administration* 10, Nos. 1&2 (fall 1978/spring 1979): 349–362.

"Auswirkung Staatlicher Regulierung auf die Elektrizitätsversorgung." With J. Müller. *Staat und Wirtschaft*, Neue Folge, Band 102 (1979): 625–650.

"The Financing of National Health Insurance." With W. B. Schartz. In G. K. Chako (ed.), *Health Handbook*. North-Holland Publishing Company, 1979.

"Optimal Pricing of Local Telephone Service." *American Economic Review* 68, No. 4 (September 1978): 517–537.

"Copyright Liability for Cable Television: Compulsory Licensing and the Coase Theorem." With S. M. Besen and W. G. Manning, Jr. *Journal of Law and Economics* 21 (April 1978): 67–95. Reprinted in *The Economics of Intellectual Property*, R. Towse and R. Holzhauer (eds.), Cheltenham: Edward Elgar, 2001.

"European Industrial Response to Peak-Load Pricing of Electricity, with Implications for U.S. Energy Policy." With J. P. Acton and W. G. Manning, Jr. In *Marginal Costing and Pricing of Electrical Energy*. Montreal: Canadian Electrical Association, May 1978.

"Tariffe Elettriche Industriali e Modulazione dei Carichi." With J. P. Acton and W. G. Manning, Jr. *Economia delle Fonti di Energia* 22, No. 6 (1978).

"Economic Policy Research on Cable Television: Assessing the Costs and Benefits of Cable Deregulation." With S. M. Besen, R. G. Noll, M. Owen, R. E. Park, and J. N. Rosse. In P. W. MacAvoy (ed.), *Deregulation of Cable Television*. Washington, D.C. American Enterprise Institute, 1977.

"Peak-Load Pricing in Selected European Electric Utilities." In A. Lawrence (ed.), *Forecasting and Modeling Time-of-Day and Seasonal Electricity Demands*. Palo Alto, CA: Electric Power Research Institute, December 1977.

"A Note on Modeling of Peak Electricity Demands." In A. Lawrence (ed.), *Forecasting and Modeling Time-of-Day and Seasonal Electricity Demands*. Palo Alto, CA: Electric Power Research Institute, December 1977.

"Lessons from the Los Angeles Rate Experiment in Electricity." With J. P. Acton and W. G. Manning, Jr. In J. L. O'Donnell (ed.), *Adapting Regulation to Shortages, Curtailment and Inflation*. East Lansing, MI: Michigan State University, 1977.

"Watergate and Television: An Economic Analysis." With S. M. Besen. *Communications Research* 3, No. 3 (July 1976): 243–260.

"National Health Insurance: Some Costs and Effects of Mandated Employee Coverage." With C. E. Phelps. *Journal of Political Economy* 84, No. 3 (June 1976): 553–571.

"The Financing of National Health Insurance." With W. B. Schwartz. *Science* 192 (May 14, 1976): 621–636.

"Impact of Competition on an Independent Telephone Company." With W. S. Baer. *Public Utilities Fortnightly* (October 23, 1975).

"Health and Taxes: An Assessment of the Medical Deduction." With R. J. Vogel. *Southern Economic Journal* 41, No. 4 (April 1975): 660–672.

"Cable, Cities, and Copyrights." With W. S. Comanor. *Bell Journal of Economics and Management Science* 5, No. 1 (Spring 1974): 235–263.

"Fixed Point Estimation of Econometric Models." *Australian Economic Papers* (December 1974): 250–266.

"Short-Run Prediction and Long-Run Simulation of the Wharton Model: Discussion." In B. G. Hickman (ed.), *Econometric Models of Cyclical Behavior.* National Bureau of Economic Research, 1972.

"The Cost of Planning: The FCC and Cable Television." With W. S. Comanor. *Journal of Law and Economics* 15, No. 1 (April 1972): 177–206.

"Cable Television and the Impact of Regulation." With W. S. Comanor. *Bell Journal of Economics and Management Science* 2, No. 1 (Spring 1971): 154–212.

"Estimation of Large Econometric Models by Principal Component and Instrumental Variable Methods." *Review of Economics and Statistics* (May 1971).

"A Linear Logarithmic Expenditure System: An Application to U.S. Data." With L. J. Lau. Presented at the Second World Congress, Econometric Society, September 1970. *Econometrica* 39, No. 4 (1971): 87–88.

"The Choice of Instrumental Variables in the Estimation of Economy-Wide Econometric Models: Some Further Thoughts." With F. M. Fisher. *International Economic Review* 11, No. 2 (June 1970): 226–234.

"Estimating Joint Production Functions by Canonical Correlation Analysis." With P. J. Dhrymes. *Econometrica* 37, No. 4 (October 1969).

"Community Antenna Television Systems and Local Television Station Audience." With F. M. Fisher, V. E. Ferrall, Jr., and D. Belsley. *Quarterly Journal of Economics* 80 (May 1966): 227–251.

Review Article and Reviews

R. G. Noll, M. J. Peck, and J. J. McGowan, *Economic Aspects of Television Regulation.* With S. M. Besen in *Bell Journal of Economics and Management Science* 5, No. 1 (spring 1974): 301–319.

Economic Innovations in Public Utility Regulation, edited by M. A. Crew. *Journal of Economics/Zeitschrift für Nationalökonomie* 59, No. 3 (July 1994).

Economic Analysis of Product Innovation: The Case of CT Scanners by M. Trajtenberg. *Journal of Economic Literature* 30, No. 2 (June 1992): 935–936.

Econometric Studies of U.S. Energy Policy, edited by D. W. Jorgenson. *Journal of Econometrics* 6 (1977).

Structure and Performance of the U.S. Communications Industry by Kurt Borchardt. *Annals of the American Academy of Political and Social Science* (March 1972).

Principles of Econometrics by K. Chu. *American Economic Review* 58, No: 5 (December 1968).

Other Publications

"Information, Telecommunications, and Markets," 19th Pacific Telecommunications Conference, Honolulu, Jan. 22, 1997.

"Utilization of the U.S. Telephone Network." Discussion Paper No. 126, Wissenschaftliches Institut für Kommunikationsdienste, March 1994.

"Incremental Costs of Telephone Access and Local Use." R-3909-ICTF, Rand, July 1990. Also published in W. Pollard (ed.), *Marginal Cost Techniques for Telephone Services: Symposium Proceedings*. National Regulatory Research Institute, NRRI 96–1, January 1991.

"Theory of Telecommunications Pricing." With I. Vogelsang. Wissenschaftliches Institut für Kommunikationsdienste, May 1991.

"U.S. Practice of Telecommunications Pricing." With I. Vogelsang. Wissenschaftliches Institut für Kommunikationsdienste, May 1991.

"Pricing Local Exchange Services: A Futuristic View." In J. H. Alleman (ed.) and R. D. Emmerson (eds.), *Perspectives on the Telephone Industry: The Challenge for the Future*. Ballinger, 1989.

"Optimal Peak Load Pricing for Local Telephone Calls," With R. E. Park. The Rand Corporation, R-3404-1-RC, 1987.

"A Framework for Considering Local Measured Service." In Richard J. Schultz and Peter Barnes (eds.), *Local Telephone Pricing: Is There A Better Way?* Center for the Study of Regulated Industries, Montreal 1984.

"Demographic Effects of Local Calling Under Measured vs. Flat Service: Analysis of Data from the GTE Illinois Experiment." With R. E. Park. In *Pacific Telecommunications Conference Proceedings*. Pacific Telecommunications Conference '80, Honolulu, 1980.

"Economic Aspects of Measured-Service Telephone Pricing." In *Ratemaking Problems of Regulated Industries*. Proceedings of the Symposium on Problems for Regulated Industries, University of Missouri, 1980.

"The Effect of Time-of-Day Rates in the Los Angeles Electricity Rate Study." With J. P. Acton. In *Electric Rate Demonstration Conference: Papers and Proceedings.* Denver, Colorado, April 1980.

"Economic Issues in Local Measured Service." In J. A. Baude (ed.), *Perspectives on Local Measured Service.* Telecommunications Industry Workshop, Organizing Committee, Kansas City, 1979.

"Foreign Experience with Peak-Load Pricing of Electricity." In *Impact of the National Energy Act on Utilities and Industries Due to the Conversion of Coal.* Information Transfer, Silver Springs, Maryland, 1979.

"The Costs of Constructing and Operating a CATV System." In *CATV Today: A Discussion of Current Issues.* Georgetown University, School for Summer and Continuing Education, February 1975.

Reports

Simultaneous Ascending Auctions with Package Bidding. Prepared for the US Federal Communications Commission, March 1998. With Paul Milgrom and Brad Miller.

Package Bidding for Spectrum Licenses. Prepared for the US Federal Communications Commission, October 1997. With Paul Milgrom and Brad Miller.

Auction Design Enhancements for Non-Combinatorial Auctions. Prepared for the US Federal Communications Commission, September 1997. With Paul Milgrom and Brad Miller.

Testimony and Filed Studies

- Affidavit testimony, on behalf of plaintiff in *Mercury Communications Limited v. The Director General of Telecommunications and British Telecommunications PLC*, concerning costs of interconnection.
- Affidavit testimony (with Ingo Vogelsang), on behalf of Motion of Bell Atlantic Corporation, Bellsouth Corporation, NYNEX Corporation, and Southwestern Bell Corporation to Vacate the Decree in *U.S. v. Western Electric Co, Inc. and American Telephone and Telegraph Co.*
- Reply declaration in a Federal Communications Commission proceeding, on behalf of the California Public Utilities Commission concerning Calling Number Identification Service—Caller ID.
- Expert testimony for the defendant in *U.S. Tel, Inc. and Kallback Ventures International, Inc. v. Sprint Communications Company, LP*, a case alleging breach of contract and lost profits.
- Rebuttal testimony before the Pennsylvania Public Utility Commission on behalf of Vanguard Cellular Systems, Inc., concerning costs of interconnection services supplied by Sprint Communications.

- Expert testimony before the California Public Utilities Commission for Roseville Telephone Co. in its proposal for an incentive regulation plan.

- White paper (with Steven R. Brenner) on behalf of the Cellular Telephone Industry Association submitted to the Federal Communications Commission, "Economic Issues in the Choice of Compensation Arrangements for Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers."

- Report (with Steven R. Brenner and Padmanabhan Srinagesh) on behalf of TCI submitted to the Federal Communications Commission, "An Economic Analysis of Terminating Access."

- Joint Declarations (with Joseph Farrell), on behalf of Sprint Communications Company submitted to the Federal Communications Commission, "Benchmarking and the Effects of ILEC Mergers."

- Expert report, deposition testimony, and pre-filed testimony on behalf of Nextel Communications in its motion to vacate the 1995 consent decree in *U.S. v. Motorola, Inc. and Nextel Communications, Inc.*

- Report (with Padmanabhan Srinagesh) on behalf of Telstra submitted to the Australian Competition & Consumer Commission, "Review of the PIE Model."

- Report (with Jose Alberro and Padmanabhan Srinagesh) submitted to Telmex SA for use in World Trade Organization proceedings, "International Comparisons of Interconnection Rates – United States and Mexico."

- Expert testimony on behalf of intervenor McLeodUSA. before Arizona, Colorado, Iowa, Minnesota, Montana, Nebraska, Utah, Washington and Wyoming state regulatory commissions in the merger application of Qwest Communications Corp. and U.S. West, Inc.

- Brief of Evidence on behalf of Telecom New Zealand in a claim concerning carrier rebilling brought by Telstra New Zealand.

- White paper (with Padmanabhan Srinagesh) on behalf of SprintPCS submitted to the Federal Communications Commission, "Transport and Termination Costs in PCS Networks: An Economic Analysis."

- Prefiled testimony on behalf of SprintPCS submitted to the Florida Public Service Commission, regarding the additional costs of terminating local calls in a PCS network.

- Prefiled testimony on behalf of SprintPCS submitted to the New York State Public Service Commission, regarding the additional costs of terminating local calls in a PCS network.

- Statement of Evidence on behalf of Telstra Corporation in the Federal Court of Australia, New South Wales District Registry, evaluating the claim of plaintiff Optus Networks that Telstra earned monopoly profits from local telephony services.

- Expert reports and deposition testimony on behalf of TeraBeam Networks in its claim for damages from misappropriation of trade secrets and unfair competition by Dominion Communications, and evaluation of reasonable royalty damages from alleged patent infringement claimed by Dominion.

- Expert reports on behalf of Telstra Corporation to the Australian Competition Tribunal in a review of a regulatory determination concerning the pricing of originating and terminating access services.

- Expert report and deposition testimony on behalf of plaintiffs in their claim for damages for misrepresentation of wireless telephone coverage by Los Angeles Cellular Telephone Company.

- Expert report on behalf of Amtrak concerning the classification of telecommunications services in Amtrak's appeal of Federal communications excise tax liability before the District Court for the District of Columbia.

- Expert report (with Adonis Yatchew) and testimony on behalf of the Electricity Distributors Association and the Canadian Electricity Association concerning the fair distribution of the costs of joint-use power poles before the Ontario Energy Board.

- Expert report (with John R. Woodbury) on behalf of Sprint Nextel submitted to the Federal Communications Commission concerning regulatory triggers for granting local exchange carriers flexibility in the pricing of special access services.

- Expert report (with Adonis Yatchew) and testimony on behalf of New Brunswick Power Distribution and Customer Service Corporation (DISCO) concerning the fair distribution of the costs of joint-use power poles before the New Brunswick Board of Commissioners of Public Utilities.

- Direct and rebuttal testimony on behalf of Sprint Communications Company concerning termination of the rural exemption of Consolidated Communications' local exchange carriers in Texas.

- Expert report (with Stanley M. Besen) filed before the Federal Communications Commission on behalf of Time Warner Telecom, Inc. concerning the effect of the proposed merger of AT&T Inc. and BellSouth Corporation on the increased footprint of the merged entity and the use of regulatory benchmarks.

- Economic study (with P. Paterson, M. Dodd, P. Reynolds, A. Jung, P. Waters, R. Nicholls, E. Ball) on IP interworking on behalf of the GSM Association.

- Expert report, rebuttal report, and deposition testimony on behalf of Massachusetts Turnpike Authority concerning an antitrust claim regarding leasing of rights-of-way to telecommunications carriers.

- Expert report on behalf of Sprint Nextel submitted to the Federal Communications Commission concerning an analytic framework for regulating special access services.
- Expert report on behalf of a class of mobile telephone users on the effect of full-minute billing on mobile telephone subscribers' bills.